# The Iron.

A Review of the Hardware, Iron and Metal Trades.

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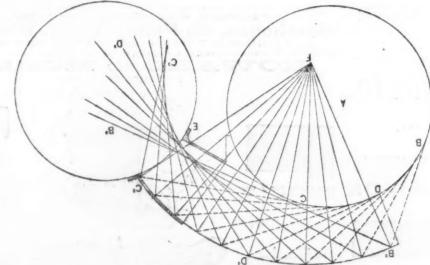
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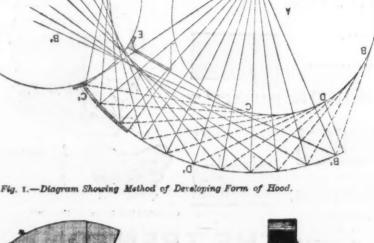
New York, Thursday, May 31, 1883.

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Electro Motors on Elevated Railroads.

The Electric Railway Co. of the United States, with a capital of \$2,000,000, has filed articles of incorporation with the Secretary of State. The company own the patents of Thomas A. Edison and Stephen D. Field for electric railways in the United States. They also take title to Mr. Edison's railway from Menlo Park, three miles in the direction of Plainfield, which has been running since last summer. Two passengers on one trip. Latterly Mr. Edison has turned in the following the motor of the hood into the exhaust-tube on the faces of the wheel into the oxhaust-pipe. The word and metal, as they leave the surface of the character of the wheel into the oxhaust-pipe. The very great velocity at which emery-from any angle. Particles starting from the carried over the wheel into the oxhaust-pipe. The very great velocity at which emery-from any angle. Particles starting from the carried over the wheel into the oxhaust-pipe. The wheel, safe the local at B' and enter the which the particles of metal are thrown of, make it essential that when these particles of the large than the latter on the line B'. When work of, make it essential that when these particles of the large than the latter on the line B'. When work of, make it essential that when these particles of the hood at C' and of, or any portion of the apparatus, they rebound through the opening of the dust will start, say at the point Q, arily of course, enter the whool at C' and, of course, enter the whool at C' and, of course, enter the hood into the exhaust-pipe. With a hood at C' and, of course, enter the hood at C' and, of c





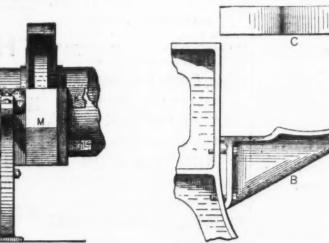
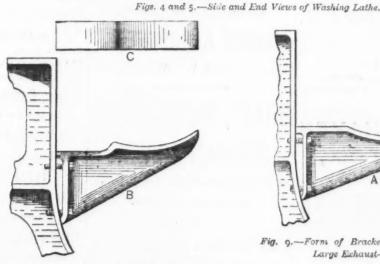


Fig. 6 .- Bracket for Supporting Small Exhaust Tube.



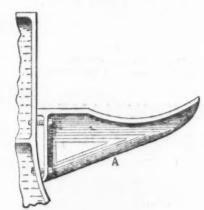


Fig. 9 .- Form of Bracket for Supporting Large Exhaust-Tubes.

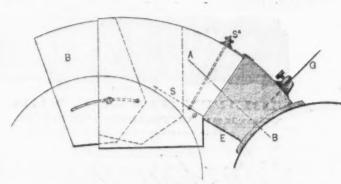


Fig. 2.-Side and End Views of Grinding Lathe, Showing Section Through Exhaust-Tube.

Fig. 3 .- Side View of Hood, with Movable Portion Pushed Forward.

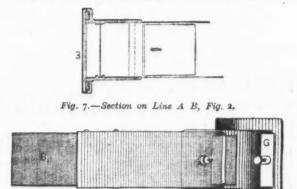


Fig. 8.—Top View of Hood.

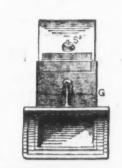


Fig. 10.—Back View of Hood, with Exhaust-Tube Removad.

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seen the road in operation have expressed confidence in the feasibility of the plan. The company also take title to a small electric railway which has been constructed by Mr. Field. The first practical work to be undertaken by the new company will be a more many and because a solectic engine in operation on the clearable of this have already been begun, and before see how it works. The company has take title to a small electric railway the manufacture of the servated railway. The arrangements to the place as aloctric engine in operation on the clearable of the servated railway. The arrangements of the single produced additional produced a

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#### Hollow and Solid Propeller Shafts.

Referring to a paper on the strength of shafting, recently read before the British Institution of Mechanical Engineers by Professor Greenhill, the London Engineer disourses as follows :

The paper leaned most distinctly on the side of hollow shafts, and as far as the disside of hollow shafts, and as far as the dis-position of the material from a mechanical point of view is concerned, the argument is indisputably in favor of the hollow shaft. Experience, however, indicates that for shafts employed in steamships, which are themselves far from being rigid, stiffness is an undesirable characteristic. There are costain not easily definable qualities which are undestrible characteristic. There are submit to much greater molecular distortion must be included in a calculation having within its elastic range. reference to the strength of large screw-shafts, and which indicate that the application of mechanical theory must be guided by physical considerations. If a shaft is to be employed in transmitting power to a distance over which it is to be supported on unyielding foundations, the argument in favor of the hollow form is almost as great as for the mechanically economical distribution of the material in a girder. Seeing that a hollow shaft with a hole of one-half the tion of mechanical theory must be guided exterior diameter will have over 60 per cent. same weight, the advantage in this respect is unquestionable. Very heavy shafting is, however, seldom employed on land, as compared with its use at sea, and it is for the latter that some information more than at present exists is required. On the other hand, if the heavy shafts used in ships transmitted power without revolution, then there would be nothing to urge against the stiff. ness secured by the hollow form, for, of whatever material, the shaft might be expected to remain free from fracture caused by flexure of the ship, the latter being ex-ternal to the shaft, and therefore having its material disposed to obtain stiffness without any view to, and at the expense of, flexibility. The flexure which the ship would ex-perience with safety could, it follows, be imposed on the shaft, for the changes from flexure in one direction to flexure in the other direction are never sufficiently rapid to impart a strain of the nature of a vibrating flexure of short range. The shaft, how-ever does revolve, and this wholly changes the character of the strains visited upon it. If, for instance, we suppose a shaft to

revolve a hundred times per minute, then it will be seen that any flexure brought about will be seen that any flexure brought about by the bending of the ship will be changed in sign at the rate of 200 times per minute, and it is questionable whether this would not gradually destroy a shaft, even though the range of bending may always remain within the range of elastic flexure of the material of the shaft. The peculiar action on the material to which this rotation under a bending stress gives rise may be said to partake of a kneading character, and it may safely be said that if ordinary cart and wagon axles were subject to stresses of the safely be said that if ordinary cart and wagon axles were subject to stresses of the same complicated sort they would not long stand their work, though they are relieved of the severity of the impact strains to which they are subject, by the springs between them and their load. Such axles are financial success of his venture.

and comfort, to prevent this dust from being blown out into the air from the fans, as it would then be scattered all over the works. necessary to give them greater sectional area until there came to be as great an apparent or seeming disparity between the static strength of the axle and the work to be done by it, as in the case of a railway axle. The greater the stiffness of a screw-shaft the greater will be the tendency to locate the destructive bending near the bearings, where the diameter is somewhat lessened, and in the case of the hollow shaft, as shown by Professor Greenhill, the rigid-ity of such a shaft carried in bearings at frequent intervals is such that flexure could not take place with sufficient freedom to produce an elastic curve. Under the enormously heavy torsional strains to which a screw-shaft is subjected when a ship is pitching, and the acrew one minute deeply buried and the next half or wholly out of the water, it may be questioned whether there is not added to the destructive action brought about by rapid rotation under simultaneous bending stress another source of destruction of a peculiar character, namely, the tendency to an epicycloidal rotation of the material of the shaft upon itself—just in the same way as the tendency is set up in a rod rigidly fixed at one end, while the end is caused to describe a circular path, a end is caused to describe a circular path, a torsional strain being put on the rod at the same time. This tendency will, of course, be wholly absent so long as the shaft remains free from bending stress, but being bent, the tendency will be proportional to the torsional stress and some function of angle of flexure. angle of flexure.

When it is admitted that the bending of a steamship is often sufficient to throw very considerable bending stress on its screw-shalt, it appears to be a question whether the use of hollow shafts is not a step in the wrong direction, for it would be undesirable to impose upon the shaft the duty of relieving the ship; and yet if the shaft is not made heavy and strong enough for this, it must itself submit to more or less destructive flexure. Rigidity, short of absolute rigidity, would thus seem to be an undesirable quality, and even with hollow shafts this could not be obtained without great weight, and would be accompanied by very numerous and important ob-jections as a shaft to be driven at a high speed by steam engines coupled direct. Exsufficiently extended to prove their value, and it would be rash to agree with the state-ment made in the discussion of the paper that "the history of hollow screw-shafts was a tale of disaster;" but sufficient failures have taken place to show that hollow shafts do not afford a complete solution of the most cowtly steamship trouble. An ideally perfect and possibly practicable shaft would consist of a perfectly flexible core of small discount diameter, carrying a number of annular rings freely interlocked, and capable of transmitting torsional stress only. With this shaft the action due to simultaneous rotation and bending would be expended in sliding the interlocking surfaces of the annular rings, instead of molecular distortion of the material of the shaft. From this point of view it might be argued that the solid shaft provides the flexible core—itself capable of provides the flexible core—itself capable of transmitting torsional stress—and the annular rings; for these shafts often do good service long after a crack or cracks appear on the surface; the core holding the shaft together, and the cracked outer parts, with some assistance from the core, transmitting the power. It is probably impossible to obtain it, but if the necessary flexure could be obtained partly by surface sliding, instead of molecular disturbance, immunity from breakage might be secured; just as a long range of flexure is obtained in carriage springs by making them in several leaves, free to slide o i each other, instead of in one piece, which, to give the same range of flexpiece, which, to give the same range of flex-ure under the same loads, would have to

within its elastic range.

That the large shafts of our big steamers do not fail from want of original strength to transmit the power of the engines seems out of the difficulty, and it may be greater stiffness than the solid shaft of the Are the objections to a universal joint con-

> A Floating Cannery.—A gentleman lately returned from Victoria gives a description of something entirely new in the way of a salmon-canning industry for northway of a samon-canning industry for north-ern waters. It is a complete floating estab-lishment, including fishery, and is owned by Joe Spratt, formerly of the Albion Iron Works, and a mechanical engineer of con-siderable genius. The craft, which has been named "Joe Spratt's Ark," is 160 feet long, 35 feet beam and 9 feet depth of hold. She will be propulled by twin acrows a feet in will be propelled by twin screws 4 feet in diameter, with "auxiliary" sail. She has a two-story house. In the lower house is lo-cated the entire apparatus for cleaning, pre-paring and canning salmon and for making cans. The refuse, instead of being thrown overboard, will be run into large vats in the hold and the oil tried out. It makes fair lubricating oil, though not so good as dog fish. After the salmon season is over, Mr. Spratt will go after the dog fish, which are plentiful in northern waters. She carries large tanks in her hold, in which to store oil until it can be barreled and shipped. The upper house is divided into separate apartments for white, Indian and Chinese hisher-men's quarters. Boats are swung in davits, and the hurricane deck is used as a net rack. There are comfortable officers' quarters and a small cabin for an Indian trader who ac-

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Pent formations are confined to sold and

Peat.

Peat formations are confined to cold and temperate climates and swampy ground. In its natural and advanced state, the material contains about three-fourths of its weight of water. In the earlier stages of decomposition the quantity of water present often amounts to as much as go per cent. of the whole weight, and is totally unfit for any of the purposes for which fuel is used. Owing to the abundance, chapters and superior the purposes for which fuel is used. Owing to the abundance, cheapness and superior to the abundance, cheapness and superior heating power of coal, peat has not found much favor in this country. In Ireland, Germany, Sweden and several other foreign countries, however, it is largely used not only for domestic, but also for metallurgical purposes. In a French report on the use of peat as a fuel for locomotives, after experimenting an alarge scale the conclusion was menting on a large scale the conclusion was reached that an economy of nearly one half might be effected over a similar mileage and tonnage with coal, setting aside the greatly reduced injury to boilers, flues and grates. It is also claimed for peat in this report, that this also claimed for peat in this report that the firing, once understood, is much more early managed than with coal, no stoking being required, and the heat being more regular and not subject to the constant changes in intensity that occur so frequently with coal and coke. The chargosal produced with coal and coke. The charcoal produced by the carbonization of ordinary air-dried peat is very friable and porous, takes fire very readily, and, when once ignited, nearly always continues to burn until its carbonaceous matter is wholly consumed. It scintillates in a remarkable degree when burned in a smith's fire, and its extinction when in mass is difficult. From this arises the difficulty in its manufacture by the usual method of carbonization in piles, and it is so little coherent that it cannot be conveyed without much of it being crushed to dust.

### The Arlberg Tunnel.

The present road over the Arlberg, which orms the frontier between Austria and Switzerland, is 5400 feet above the level of the sca. The tunnel now in course of construction is much lower down, the opening on the Tyrol side being 4030 feet, and that on the Swiss side 3770 feet, above sea level. The total length of the tunnel, when completed, will be about 6 miles for yards, running for a long distance through a formation of mica schist. The method of excavation differs in some respects from that practiced in the St. Gothard Tunnel. Instead of piercing the upper part of the passage first and working down, the Austrian engineers have preferred to begin at the base and work upward. The drills are worked by compressed air, and the debris resulting from the blast is removed by trucks whi Until quite recently no difficulty had been experienced in connection with ventilation, and the temperature rarely exceeded 53 °F.

The contractors have undertaken to make The contractors have undertaken to make an average advance of about 21½ feet per day, and for every day they exceed the given time a penalty of \$340 will be imposed; for every day gained they will receive a premium of \$340. So far the contractors have kept well up to time. On not a few occasions the agreed rate of advance has been more than doubled. From January, 1881, when the work began, to September has been more than doubled. From January, 1881, when the work began, to September 30, 1882, the length pierced on the east side was 9761 feet; on the west, 8609 feet; together, 18,430 feet, equal to about 29 feet per day—figures which are highly significant of the progress made of late years in the method of boring great tunnels. In the month of February last the rate of advance per day was about 15 feet on the east side, and 15 % feet on the west side, and but for the and 15½ feet on the west side, and but for the scarcity of water, owing to the freezing of the sources of supply, a still better average would have been made. On the west side there is now a stretch of over 10.000 feet practicable for locomotion, while on the east side the completed stretch is only 4600 feet. Up to the end of February the quantity of earth and rock removed amounted to 15,-125,140 cubic feet, and the walling to that date executed measured about 4.253.262 cubic feet. The tunnel is expected to be completed and the line ready for opening by the autumn of 1884.

Local Steamboat Ins, ectors Matthews and Fairchild have refused to issue certificates to ferryboats plying on the East and Hudson rivers that store their illuminating gas in tanks in the hold, on the ground that an explision would be liable to occur in case of collision. They required all ferryboats using illuminating gas to construct their reservoics above decks, and notified the superintendents above decks, and notified the superintendents of the various companies that certificates would not be given for their boats unless these conditions were complied with. The steamboat people, we understand, have appealed to Inspector-General Dumont at Washington, and further developments are being looked forward to. being looked forward to.

Mr. J. B. Sherman, of Boston, is reported to have recently concluded a series of experiments upon a new metal discovered by h m with a view of ascertaining its adaptability for telegraph wires. The experiments, it is said, have yielded results favoring the adop-tion of the new material, which is reported Special attention given to the Manufacture of Chains for Cranes; Mining and Bredging Chains; "D. B. G. Special to have the a pea ance of silver, and co. to to Crane Chain. produce about 5 cents a pound.

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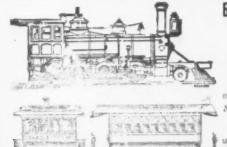
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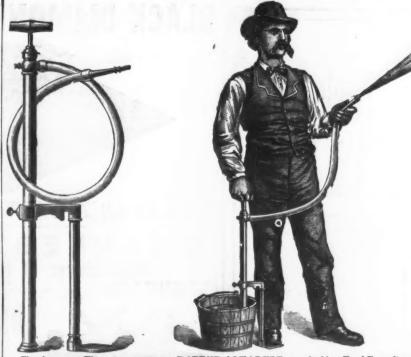


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#### The New Bridge at Niagara.

The work of excavating for the piers of the new Canada Southern Railway bridge the new Canada Southern Railway bridge continues without interruption. On the Canadian side of the river workmen have been engaged in blasting out a huge bowlder in the southern pit. It is a rock 20 feet high, 15 feet wide and 3 to 10 feet thick, lodged on its end, firmly embedded in smaller rocks. A terrific blast was made from it last Tuesday, throwing tons of it into the river and sending flying pieces high into the air, some of which landed 1000 feet off. Indeed, it seemed as if a shower of stones were falling on the American side, many of which struck on the Suspension Bridge and a few on the Custom House. Thirty carpenters are at work on the wooden platforms and be principally used in putting up this structure, and large quantities of them have arrived and are being placed in the timbers when required. All this makes a busy place of the heretofore quiet river bank, and is a suggestive indication of the colossal enterprise which is soon to follow. The false work will be 120 feet high, facing the river coefficient of conductivity of the cooling liquid, we find: over the piers—60 feet on the bottom and 36 feet on the top. It will contain 11 bents, placed on firm foundations on the bank slope, made of timbers 12 x 14 inches square, firmly bound by iron bolts.

#### Hardening and Softening Steel.

Although the characteristic property of steel upon which its usefulness mainly de-pends consists in its capacity for harden-ing, the question, Why does steel harden? has never yet been satisfactorily answered. Until it is fully answered, all the different methods of hardening must necessarily par-take more or less of the nature of experiments. It is generally accepted that by heating and cooling steel in different degrees and at different rates of rapidity we may not only obtain a great difference between extremes of hardness and softness, but also almost any intermediate degree of hardness and softness between these extremes. Re-cent investigations have demonstrated the fact that, aside from its chemical composi-tion, the temperability of steel is also largely influenced by the degree of heat at which it is tempered, and also by the temperature, the conductivity and the capacity for heat, and the boiling point of the cooling liquid. Various degrees of hardness are required for various purposes. The following simple experiment will serve to ascertain the proper heat at which steel should be cooled—say in water—so as to obtain the requisite hardness for a given purpose. Take from the lot un-der conside ation a bar of ordinary size— say Ix ½ inch—and heat the end of it, for from 8 to 10 inches, to a dull red, and then nick the heated part all around at intervals nick the heated part all around at intervals of about 34 inch. Next return the bar to the fire, heating only the end of it to a white or scintillating heat, and allowing the nicked spaces to become heated by conduction, diminishing gradually from the white heat at the end in the fire to a black heat in the nicked space furthest from it. Then quench the bar in cold water, and keep it there till quite cold. If the heating has been properly performed, the successive nicked spaces have been cooled at the following heats:

1. White.

2. Yellow.

3. Orange.

Orange Bright red.

Cherry

Dark cherry.

 Black.
 Next wipe the cooled part perfectly dry, especially in the notches, and break off the pieces over the corner of an anvil, taking
 pieces over the corner of an arts, so as last worked become most important concare to catch the pieces in a dry box, so as iderations. No specific rules applicable to to keep the fractures clean and bright. Then it is iderations. No specific rules applicable to to all cases can possibly be laid down, and the carefular and good judgment of the "up end" the fractures, and it will be seen, numbering the pieces from the fire end to the cold end, that the appearance of fractures and hardness are as follows:

Fracture. Hardness. Coarse, yellowish cast, will scratch glass.
 Finer than No. 1, coarser than No. 7; flery luster.
 Asserting the coarser than No. 7; flery luster. 3... As above, with finer Will hardly take the grain.

4... About same grain as Sharp file will make No. 7, but still flery impression.

No. 7, but still flery luster.

No. 8; no flery luster; No. 8; no flery luster; very stron; hard through.

Refined and hard on corners and edges, and rather coarse and notso hard in the center; silk wo nedges.

center; silky on edg's
7... Original grain of bar. Strength and hardness corresponding to ap-pearance.

It may be expected that the heated end No. 7 it is only necessary to replace it in the fire, heat to a good, but not bright, red, and leave it there from 15 to 30 minutes, and then cool slowly. This restoring is not peculiar to any kind of sieel, but holds good for all nowing apparent. heated uniformly and moderately, cracks in the bath, it will be but right to condemn it as unreliable, but care must be taken to intrust the test only to a person who really knows how to make it, and who has satisfied.

A vessel named the Fingal, which is now, it is said, the largest sailing vessel affort, as recently lannehed at Belfast, Ireland. She is intended for the Calcutta trade, and knows how to make it, and who has satisfied.

visible variation of temperature is assuredly followed in the hardened piece by an equally visible difference in color and grain.

As to the influence of the cooling liquid

air, some of which landed rooo feet off. Indeed, it seemed as if a shower of stones were falling on the American side, many of which struck on the Suspension Bridge and a few on the Custom House. Thirty carpenters are at work on the wooden platforms and trestle-work which will be needed to lay the masonry and put up the iron and steel work. This work is to be a gigantic affair of itself, and it will take until the middle of July to complete the one on this side, and until the middle of July to complete can take place at a lower temperature than oco of these structures. Twenty carpendads of lumber have already arrived and loads of lumber have already arrived and been unloaded on this side. The laying of the top platform has already begun, and workmen are at work framing the timber of steel, or drawing of the temper, is due to for the lower and principal platform. Workmen are engaged on the sloping bank for foundations to the main structure. Tool and stornge houses have been erected on the bank for material and patterns. Bolts will be principally used in putting up this structure.

For	At a temperature of	Difference between it and 900° F.	Coefficient of conductivity	Product,
Water	32° 800° 650° 470°	868	1.0	868
Zine	8oo*	100	15.0	1,500
Lead	650°	250	8.5	2,125
Tin	470°	430	14-5	6,235

According to these results it would follow that any of these metals would harden steel much more than water, which, however, is not the case. Hence it follows that the not the case. Hence it follows that the hardening power does not depend merely on the temperature and conductivity of the cooling fluid, but also on its capacity for heat and the hight of its boiling point. This being so, it follows that the great hardening power of water must be explained upon the ground of its production of vapor rather than its conductivity. And this become at than its conductivity. And this becomes at once evident when it is remembered that water, in contact with metal at a temperature of from 900° to 950° F., cannot, under ordinary pressure, remain in the liquid state, ordinary pressure, remain in the liquid state, but must be rapidly converted into steam. Therefore the heated steel remains enveloped by a film of steam until cooled, which formation of steam renders a great deal of heat latent, thereby assisting the hardening process. From the well-known fact that rapid motion of the steel greatly adds hardening under water we were for aids hardening under water, we must fur-ther conclude that steel will be all the better ther conclude that steel will be all the better hardened the more rapidly the steam formed is drawn away. With a view of accomplish-ing this, slow dipping, hardening under a running stream of water, and finally hard-ening with a spray, have been successfully employed, and have all given better results as to degree of hardness and uniformity than the ordinary method of hardening under water. For tempering small articles method water. For tempering small articles, melted metal baths, especially tin, give the best results for uniformity of hardness, and since the certainty of the temperature of the bath is an important factor in the process of hardening, their use commends them to very favorable consideration.

In softening steel, the first consideration is the purpose of the operation. If it is merely intended to draw the temper of an overhardened piece of steel, its ultimate use will entirely decide the question. Uniform and careful heating, and good judgment, acquired by intelligent practice, are the only safe wilds. If you the other hand, angeling guides. If, on the other hand, annealing for the purpose of restoration of ductility is intended, then the treatment the material has received and the heat at which it was the experience and good judgment of the steel worker must be given proper scope. The general rules governing annealing may be summed up as follows: Heat slowly and uniformly the entire piece to a temperature higher than that at which the metal was last worked—if hammered or straightened cold, to a bright red. Allow cooling to take place as slowly as possible and under ex-clusion of air. If annealing cannot be performed in pots or muffles, annealing in dry lime or in an oil bath will give excellent results. If the steel has not been heated above dark cherry red and is low in carbon, annealing in boiling water will give excellent results.

The extent to which the St. Gothard Tunnel is likely to revolutionize the trade of Central and Southern Europe is but imperfectly appreciated as yet. Some remarks, however, recently made by Mr. W. E. Richards, manager of the well-known English will show a water crack, extending up to No. 5, but never into No. 6. In order to restore any of the first pieces to the grain of No. 7, it is only necessary to replace it in the restore and the first pieces to the grain of No. 7, it is only necessary to replace it in the restore with product in the well-known English firm of Bolckow, Vaughan & Co., are suggestive. Mr. Richards, in referring to re-cent business transactions in Italy in connection with puddled bars, stated that he was unable to sell those bars, because German manufacturers could deliver them in Italy at a price much below that of the Cleveland product. The St. Gothard Railway, as will be re-dembered, was constructed princially by German capital, and the advantages offered by it are rapidly becoming

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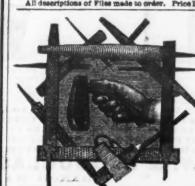
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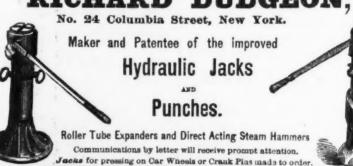
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THE ANSONIA WROUGHT GONGS. For Clocks, Indicators, Telephones, Call Bells, Bell Punches, Steamboat and Bailroad Uss. Burnished or Nickel Plated.

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THE ESSEX HORSE NAILS

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By the use of improved machines we forge Fifty per cent. More Nails on a machine than any other company, and are thus enabled to sell them proportionately less than any other nail of equal quality. All nails branded ESSEX fully guaranteed.

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New Bitain, Conn. WAREROOMS.

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General Agents for the sale of Leonard Bailey & Co.'s "Victor Planes,"
Manufacturers of "Deflance" Patent Adjustable Planes.

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Aiken & Drummond Patent Power Molding Machines SEND FOR DESCRIPTIVE CIRCULAR TO

THE DRUMMOND MFG. CO., Louisville, Ky.

registered tonnage 2518 tons. The vessel is constructed of steel, and will be capable of carrying a dead weight of 4200 tons.

#### The Manufacture of Rolled Iron in Pennsylvania and Ohio in 1882.

The subjoined tables, referring to the manufacture of rolled iron in Pennsylvania and Ohio in 1882, are taken from the Bulletin of the American Iron and Steel Association. The designation of the districts, says our contemporary, may perhaps not express their limits so clearly as they should, and we will for this reason explain that in Pennsylvania the Philadelphia district covers Philadelphia delphia County and and the Pencoyd Iron Works; Eastern Pennsylvania comprehends the eastern counties outside of the Philadel-phia district as far west as the limits of Chester, Berks, Schuylkill and Carbon coun-Chester, Berks, Schuylkill and Carbon counties; Central Pennsylvania comprises the counties west of those just named, entending to the western limits of Bedford, Blair, Centre and Clinton counties; Western Pennsylvania comprises all the counties west of those just named, except Allegheny County, which is a separate district. In Ohio, the lake counties are those bordering on Lake Erie; the Mahoning Valley comprises the counties in the northeast. ley comprises the counties in the northeastern part of Ohio; the interior counties cover the counties south and west of the two first named districts, except the counties along the Ohio River, which are classed in a district by themselves. The tables are as follows:

PENNSYLVANIA. Bar, Rod, Bolt, Skelp, Hoop and Shaped Iron and Rolled Axles Net Tons.

Districts.	1880.	2884.	188e.
PhiladelphiaEastern Pennsylvania.	59,234	67,695	75,180
except Philadelphia. Central Pennsylvania.	96,507	107.968	128,991
Allegheny County	50 274 a83,600	78,610 400,801	332,300
Western Pa. except Allegheny County	59.787	59,039	48,539
Total	551,302	714,113	685,049

Plate and Sheet Iron, Except Nail Plate. Philadelphia. 7.570 Eastern Pennsylvania, except i hiladelphia. Central Pennsylvania.

Cut Nails and Spikes.  Eistern Pennsylvania, 13,248 22,533 26,30 including i hita	Western Pa., except Allegheny County	12,909	18,219	17.69
E istern Pennsylvania, including i hila	Tetal	223,940	251,225	258,603
including   hila	Cut Nails	and Spil	tes.	
Allegheny County 20,955 24,256 22,9	including   hila	-	22.533	26,368
Western Pa., except	Central Pennsylvania.			37,472
Allegheny County 12,071 14,862 11,00	Western Pa., except	20,955		83,961
	Allegheny County	12,071	14,862	21,069

Total	86,878	95-735	97-470
Iron	n Rails.		
Philadelphia. Eastern Pennsylvania., Central Penn ylvania., Allegheny County Western Pa., except Allegheny County	66,642 64.370 3,053 35,927	67,929 81,961 4,318 39,585	26,756 44,269 4,319 7,420
Total	170.482	193.793	89,704

Philadelphia. 64,653 82,505

Eastern Pennsylvania except Philadelphia entral Penusylvania. Ulegheny County.... 318,838 316,636 505,182 estern Pa., exce Aliegheny County 119.994 131,705 1,032,602 1,254,866 1,123,886

Bar, Rod, Bolt, Skelp, Hoop and Shaped Iron and

Districts.	1880.	1881.	1882.
Lake counties	19,787	32,744	40,350
Interior counties Obio River counties	28.291 28.291	30,733 31,784	37.182 47.920
Total	182,677	231,247	#53,933
Plate and Sheet Iro	n, Excep	t Nail P	ate.
Lake counties	13.321	16.123	15.021
Ohio River counties	11,491	10,515	#3,348
Total	33 826	37 207	49,182
Cut Nails	and Spil	ces.	
Lake counties	9 219	10,082	3,130

Interior countles ..... Ohio River countles... 32,015 32 951 41,234 43,03 Iron Rails. lahoning Valley 18,37€ 11,431 851 Total..... 50,829 Total Rolled Iron

Lake counties......
Mahoning Valley....
In erio counties...
Ohio River counties... 62,802 130,811 42,374 72,559 65,367 153-757 49,109 77-494 308,566 345.727 356,668

Pneumatic Transmission of Power .-Recent advices from Great Britain are to the effect that the distribution of power by means of compressed air is now being con-templated in Birmingham, England. The requirements of the district to be supplied have en carefully considered, and in order to determine the position and extent of the proposed works, the number of steam-users in the proposed district was ascertained. In view of the results obtained it is proposed to suffices for decomposing the watery vapor provide machinery and plant capable of dentering at the tuyeres. It will, however, livering 5000 horse power, and at the same be observed that the fluctuation in the qualthat amount. Upon the site selected for the works it is proposed to erect four air-compressing engines driven by compound condensing steam engines, giving a total of second control of the second con THE DRUMMOND MFG. CO., Louisville, Ky.

NOVELTY IRON FOUNDRY,
HAIGH TO CLARKS,
Lacashire boilers, together with air-purifying apparatus and the necessary buildings or offices. Before entering the air-compressing the air-compressing apparatus, by which it will be cleared of soot, dust, and the rimpurities, in order that it may reach the consumers in a thoroughly pure state.

THE DRUMMOND MFG. CO., Louisville, Ky.

In a pressing engines driven by compound condonsing steam engines, giving a total of 8400 indicated horse-power, and 44 Cornish or Lastly, the amount of metalloids, exclusive of Lacashire boilers, together with air-purifying apparatus and the necessary buildings or offices. Before entering the air-compressing cylinders the outer air will be passed through an air-filtering and purifying apparatus, by which it will be cleared of soot, dust, and other impurities, in order that it may reach the consumers in a thoroughly pure state.

During my visits to the iron districts of Lake Superior, Virginia, Alabama and Georgia, I was able, from personal observa-

The air pressure to be delivered has been fixed at a minimum of 45 pounds effective, or 59.7 absolute, as being sufficient to cover the majority of cases. Before entering the engine the quantity of air supplied would be measured by a meter, or otherwise in the engine itself by a counter registering the speed and average point of cut-off.

#### Comparative Blast-Furnace Practice.

At the Vienna meeting of the British Iron and Steel Institute, held in September last, Mr. I. Lowthian Bell presented an interesting paper bearing the above title, from which

we extract the following:

When my attention was first directed to a study of the operations of the blast furnace, I was greatly impressed with the dissimilarity of the results apparent in smelting iron with charcoal and with coke. This was so striking that I was at first induced to believe that there was a virtue in charcoal not lieve that there was a virtue in charcoal not possessed by mineral fuel. To some it may possessed by mineral fuel. To some it may appear rather a waste of time to devote any of our attention to a communication dependent more or less for its interest on the use of charcoal in the blast furnace. In Great Britain, as we all know, the process is al-most as little known as is the antiquated Catalan fire; but we must bear in mind that in other parts of the world charcoal pig iron continues to be made on such a scale that it has been computed that 2,000,000 tons, or about one-tenth of the world's make, are still produced by means of fuel derived from the forests of those countries where this most ancient mode of making pig iron is still practiced. It is, however, a branch of industry which, in most districts, is more or less of a temporary character, for it must, generally speaking, recede as population advances and timber disappears.

It would not be easy to single out any

manufacturing operation which is carried on under a greater variety of conditions than

under a greater variety of conditions than those which accompany the smelting of iron. Flux and fuel, ore and air, and, finally, the pig metal itself, differ so much in character as greatly to modify the results obtained in the operation of producing it.

Limestone, the usual flux of the earthy constituents of the ore, sometimes contains as much as half its weight of carbonate of magnesia. Although not without its use in promoting fusion of foreign matter in the ore, magnesia is comparatively inert the ore, magnesia is comparatively inert as regards the important function of removing sulphur from the iron. Hence a very considerable excess of limestone is employed when magnesia is present in large quantity, in order to neutralize the evil consequences attending the presence of this metalloid. The carbonic acid given off by magnesia causes a considerable expenditure of fuel, because it dissolves carbon, involvents of the carbonic actions of the carbon of the carb of fuel, because it dissolves carbon, involving a loss instead of a gain in a calorific point of view. To show how large a quantity of fuel may be absorbed in the formation of slag, I have estimated that out of about 22½ cwt. of coke employed in smelting a ton of Cleveland iron, when only using 13½ cwt. of limestone per ton of pig iron process. cwt. of limestone per ton of pig iron produced, the following portions are expended upon the flux:

Expulsion of carbonic acid from the limestone.

Decomposition of carbonic acid by carbon.

Fusion of about 30% cwt. of stag......

Total.... The necessity of avoiding the use of a comparatively neutral substance like car-bonate of magnesia is sufficiently conspicuous from these figures, and, at the same time, it is obvious that a rich ore, requiring a less weight of limestone, and producing a reduced quantity of slag, means a correspond-ing saving in fuel. To such an extent may this occur that in certain cases, and with certain ores, under one-half of the quantity of fuel just named is required to deal with the carbonate of lime and to effect the fusion of the slag.

Comparing different cases together, the fuel at one time is charcoal; at another, coke or anthracite, and at another, raw coal, and different specimens, even of the same kind of combustible, vary in the amount of ash and other foreign matter they contain. They also differ in the facility with which they are attacked by the carbonic acid produced during the process of reduction or expelled from the limestone.

The ore not only requires a varying amount of heat, and consequently of fuel, according 31,713
34,843
34,843
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34,843
34,843 ally smelted by being exposed for 60 or 70 hours to the reducing influence of the gases; whereas other descriptions, like the spathose ore of Eiseners, pass through the furnace in periods varying from five to six hours.

The atmospheric air varies in the quantity of moisture it contains. Sometimes the blast as it enters the furnace may carry with it I per cent. of hygrometric moisture, to decompose which, if 140 units of air are consumed per 20 units ol iron, 5270 C. calories are absorbed. Reckoning each unit of coke to be burnt with air at about 538 C (1000° F.), and to give 3800 C. calories, this quantity of moisture represents about 1.38 units of coke per 20 of pig iron. The case just quoted is an extreme one -first, because the atmosphere does not usually contain much above half the above-named weight of moisture; and, second, 100 units of air instead of 140 is a fair allowance in modern furnaces. With these two corrections, about

Cutlery.

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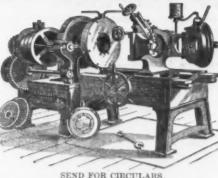
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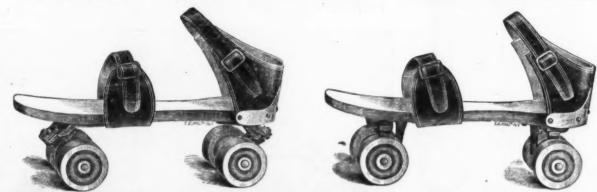
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"Manhattan" Roller Skate,
"Editions" Waron Le Manhattan" Rone.

#### RINK ROLLER SKATES.



These Skates combine all the latest improvements, are more elastic, will turn in a smaller circle and act quicker than any others yet offered. They are finished in a superior manner, and the price low.

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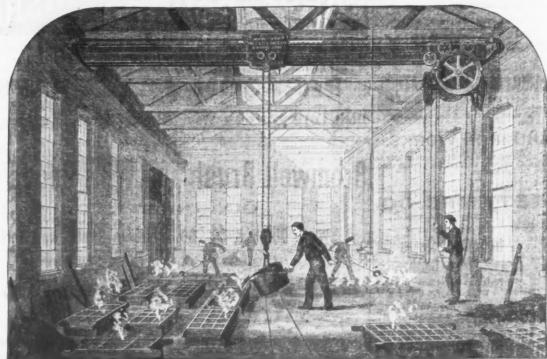
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It is simple and not liable to get out of order, Revolving Shell being constructed of Siemens-artin steel, and all parts mechanical in design and of first-class construction. Weight, 5,500 lbs., aviest piece, 1,500 lbs. It will pulverize 7 to 10 TONS IN 10 HOURS with 30 H. P. For Circulars and full particulars, apply to or address

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SOLE MAKERS :

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Circulars on application. Full specification and sender submitted on receipt of capacity and span of bridge desired,

forded me, to institute those comparisons between vegetable and mineral fuel which, under other circumstances, would have been laborious and difficult.

It may be well at this point to remind you

that all kinds of carbon do not appear to yield exactly the same quantity of heat. The diamond is said to afford 7770 C. calories for each unit burnt to the state of carbonic acid; native graphite, 7797, and the hard, lustrous carbon deposited on the inside of gas retorts, 8047. Wood charcoal varies from 7900 to 8030 calories per unit of carbon burnt. After consulting many authorities, I have adopted 8000 calories as the equivalent for carbon in coke, so that, according to this view, vegetable carbon cannot be said to possess any advantage, in a heat-producing point of view, over that obtained from mineral coal.

At one time I supposed it possible that the greater richness of charcoal, as compared with coke, in the alkaline matter which ac cumulates in a blast furnace, might, by promoting the fusion of the earths, or by the conversion of such matter into cyanides pos-sessing a certain amount of reducing power account in some measure for the small quan tity of charcoal required in the Vordernberg furnaces and elsewhere in the Austrian dominions. [We would here state that the consumption of charcoal per ton of pig iron made in Styria and Carinthia varies from 12 to 15 cwt., the temperature of the blast being

about 392° F.]

Mr. bell further stated: A convincing proof of the close correspondence of the action of the two kinds of fuel was afforded me in West Virginia, where I found a furnace in which the same quality of ore had been smelted at one time with charcoal and subsequently with coke. Making allowance for the difference of conditions, such as richness of ore, &c., the results afforded by the two kinds of fuel agreed as nearly as could have

been expected.

In some localities in the United States the social changes already alluded to as being unfavorable to the production of charcoal iron have led to the abandonment of many works. The timber-producing powers of North America are, however, still so large that in other places furnaces have been built, so that the make in 1881 exceeded that of any previous year. Ten years ago—viz., in 1872—the production was 500,587 net tons, and in 1881 it rose to 638,833 net tons

of 2000 pounds.

A paper by Mr. John Birkinbine gives at considerable length some very interesting results of certain trials at the Pine Grove Furnace, in Pennsylvania. In it, using an ore yielding about 40 per cent. of metal, with 11 to 12 cwt. of limestone per ton of pig, they consumed from 22.59 to 23.66 cwt. of charcoal for gray iron, varying from No. 2 to No. 2.40, with a production of about 100 tons per week. The furnace is only 36½ feet high, with boshes of 9.4 feet, blown with air at 500% [4.64].

Having regard to the temperature of the blast, and, above all, to the size of the furnace, this is no doubt very fair work—very much better than the same furnace was able to do with mineral fuel. When coke was employed instead of charcoal, the fuel rose to 31.19 cwt., the limestone to 23 cwt., while the weekly make fell to 70 tons of No. 3 quality. When using anthracite, the consumption was 34.56 cwt., with 24.94 cwt. of limestone, the production falling to 58 tons

Speaking roughly, the larger quantity of carbonic acid in the limestone, when using carbonic acid in the innestone, when using coke or anthracite, would carry off about 1.4 cwts. of carbon, while the decomposition of the limestone and fusion of the slag would account for about 2½ cwt. more than when using charcoal. We may therefore approximately estimate the addition to the fuel from these two causes to amount to 31/2 cwt. on each ton of iron. The greater volume of the escaping gases, when using fossil coal, as compared with that carried off in the case of charcoal, would carry off sufficient heat to account for the remainder of the fuel ex-

By the kindness of Professor Ackerman, of Stockholm. I have been favored with the particulars of the performance of 27 char-coal furnaces in Sweden, and from these an average of the whole has been compiled:

PARTICULARS OF TWENTY-SEVEN SWEDISH PUR-

Furnace.	Dimensions in English feet.		
	Mini- mum.	Maxi- mum.	Aver-
Hight	30.3 6.8	54.6	45.8 8 8
roughly estimated	Foo	2,470	1,400

From the information contained in the average heat required in smelting in these 27 charcoal furnaces has been made. Alongside of it, for purposes of comparison, I have placed a similar statement showing the calories necessary in smelting iron with coke. In each case 20 units of pig iron are taken.

		Swedish furnaces, Calories,	furnaces (alories
	Evaporation of water in fuel.	1,631	324
	Reduction of iron from ore	38,768	33.108
	Carbon impregnation Expulsion of carbonic acid	1,420	1,440
	from limestone Decomposition of carbonic	1,421	4,013
	acid from limestone Decomposition of moisture in	1.473	4,160
	blast Decomposition of phosphoric	1.360	2,444
	and silicic acids	522	4.174
ļ	Fusion of pig iron	6,500	6,600
	Fusion of slag Transmission of heat through	8,270	14,520
1	walls, supposed	2.543	3,648
1	Carried off in tuyere water	F. Log	1,818
	Carried off in escaping gases.	6,913	7,542
The second name of	Total Estimated development of heat, based on the composition of the gases and fuel	65,522	83,801

consumed, together with heat due to temperature of the blast.... 63,635

84,772 The fairly close correspondence of the two stone than is needed for the richer hematites (2400 + 5000).

tion and from the information kindly af- of Sweden. The consumption of fuel, &c.,

	Swedish.	Cleveland.
Cwt. of fuel per ton of pig Cwt. limestone do Cwt. ore	19.48* 3.84 39.56	99.49 9.38 40.93
T'mperature of blast T'mperature of	412° F. = 211° C.	:045° F. = 563° C.
escap. gases.	552° F. = 389° C.	504° F. = 262° C.

The heat computation was obtained by the

following method:		
	Swedish.	Cleveland.
Cwts. of fuel per ton of iron.	. 10.48	20.40
Less water, &c	3.02	** **
		-
Less ash, &c., and, in case of charcoal, less carbon al- ready combined with oxy	-	20.40
gen	2.13	1.63
Less dissolved by carbonic	14-34	18.77 -
acid in limestone Leaving carbon to produce		8.13
heat †		17.65 Swedish. Calories.
Carbon burnt to CO		400 = 33,318
CO <sub>2</sub> Heat in blast	4.85 × 5,0	600 = 27,160 3,163
Total		Cleveland.
Carbon burnt to CO		100 = 42,360
CO <sub>2</sub> Heat in blast	5 48 × 5,6	500 = 30,038 11,724
Total		

nuch larger quantity of heat which accompanies the conversion of carbon into carbonic acid than into carbonic oxide, that the larger the quantity of the former compound we have in the gases as they leave the furnace the better. ‡

As is well known, the source of the oxygen which has to convert the carbonic oxide into carbonic acid lies in the ore. Besides the acid thus formed, there is a certain quantity given off by the limestone, and a further amount evolved by the dissociation of carbonic oxide, of which two equivalents are resolved into one of carbon and one of carbonic acid (2 CO =  $C + CO_2$ ).

The moment, however, that the carbonic acid, from whatever source it comes, exceeds a certain limit, depending upon the temperature and other conditions at the spot where its liberation or formation takes place, it is resolved into car-bonic oxide by an action the reverse of that just stated—i. e., the oxygen of the carbonic acid attacks the carbon of the fuel, as is ex-

pressed by the formula,  $CO_1 + C = 2 CO$ . Speaking again from results obtained in using Cleveland stone, to which my attention has been chiefly directed, I am inclined to believe that the limit in question is reached when one-third of the carbon in the gases, at the outside, is in the form of carbonic acid and the remaining two-thirds in that of carbonic oxide. In practice, however, this proportion appears to be seldom reached, I to 2.1, or I to 2.2, or even more, being a more usual ratio between the two, while in fur-naces of insufficient capacity it often is as I naces of insufficient capacity it often is as it to 3, or even more. The figures given in the ascertainment of the heat produced do not exhibit the whole of the carbonic oxide, because there is also that due to the action of the carbonic acid of the flux on carbon, which does not produce heat. With this correction, in the two examples selected for flustration, the ratio is as follows: Swedish furnaces, I of carbon as carbonic acid to 2.05 as carbonic oxide. Cleveland furnaces, I of carbon as carbonic acid to 2.52 as carbonic oxide.

Calculated volumetrically, we have 100 volumes of carbonic oxide, accompanied with the following of carbonic acid: Swedish furnaces, average using charcoal, 49 volumes. Cleveland furnaces, average using coke, 39 volume

It is only right, however to state that, occasionally, in the list furnished to me by Professor Akerman, this ratio is considerably exceeded; 60 or 70 volumes, and even more, have been found associated with 100 volumes of carbonic oxide, and, at the same time, the consumption of charcoal for hard

gray iron was as low as 15.54 cwts. per ton.
An excellent paper by M. F. Friderici contains some important information on the subject of smelting iron by means of char-

		Fur-	Fur-
	Vordernberg furnaces.	Bace 2.	nace 1.
-	Total hight, in English feet	35-49	51.11
4	Diameter at bosh, English feet	7.87	12.43
	Cubic capacity. c. feet	1126	3606
-	Weekly make, white iron, tons	105	26956
	Weekly make, per 10:0 c. feet		
	of capacity	93.9	73.0
	Consumption of charcoal per		
X	ton, English cwts	14.8	13.6

In order to ascertain the circumstances which enable the charcoal smelters of Vortables furnished to me, an estimate of the dernberg to produce a ton of iron with so average heat required in smelting in these 27 small a quantity of fuel, I propose examining the heat produced at the two furnaces in question, and comparing the product with that of a Cleveland furnace using a very much larger quantity of fuel in the form of coke and making only 30 tons per 1000 cubic feet per week

Furnace.	Weight fuel con- sumed per 20 units pig iron.	Temperature of blast.	Temperature of cacaping gases.
		-	

Vordernberg 2. 14.80 572° F. 300° C. 343° F. 173° C Vordernberg 3. 12.60 842° F. 450° C. 440° F. 230° C Cleveland . . . 22.32 905° F. 483° C 030° F 332° C

\*As nearly as Mr. Bell can make out, so fur-nees making hard gray iron for Lancashire free ave an average capacity of 25 C. feet; charcoal consumed per ton of pig iron, i8.45 cwt.; sewa urneces making Bessemer, average capacity, a52 C. feet; average consumption of charcoal per ton

of pig. 20,30 cWt.

inclusing the carbonic acid generated by the action of carbonic oxide on the minerals. Mr Bell finds the ratio of carbon as carbonic acid to that as carbonic oxide to be as follows: C. Acid. C. Oxide.

Average of 16 furnaces making

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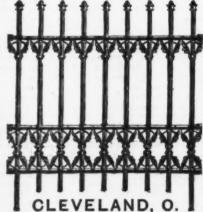
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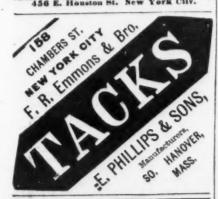
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The heat produced in the furnace per unit for 1878) have been decreasing. of fuel as charged was as follows :

	Furnace 2,	Furnace 3,	Cleveland,
Combustion of the carbon	360g	3726	3653
Contained in blast	277	393	534
Total	3686	4119	4187
Carried off in gases		981	509
Accounted for in furnace.	3664	3838	3678
Difference from Clevel'nd	— 14	+ 160	

Thus, according to this statement, the heat obtained from the coke is about equal to that obtained from the charcoal in the furnace which works least economically (No. 2), and about 4 per cent. less than that in the larger furnace. This difference is particularly striking when we consider the very different striking when we consider the very different value, from a calorific point of view, of the two kinds of fuel, for while coke contains from go to 92½ per cent. of fixed carbon or carbon in the form of combustible gas, charcoal has only about 36½ per cent. Indeed, after making allowance for the combined oxygen it contains, it will not be safe to reckin it as affording more than 85 per cent. reckon it as affording more than 85 per cent. of carbon available for heat purposes.

To obtain the heat-producing power of

and for ash, moisture, &c., and then a deduction made for carbon carried off by the carbonic acid liberated from carbonate of

Carbon.	Furnace	Furnace	Clevela
Carbon delivered to furnace per so units of iron, after allowance for water, ash &c. Carbon carried off without affording heat, by carbonic acid in flux or ore.	19.61 .72	10.74	20.40 2.64
	11.90	10.31	18

Furnace 3.... Furnace 3.... Cleveland ... The heat afforded and absorbed in the furnace per unit of pure carbon is as follows: The product in calories, per unit of carbon,

Furnaces.	Combustion of car- bon computed from oxidation.	In blast, computed from weight and temperature.	Total.	Loss in gases and hot air.	Absorbed in furnace.
Furnace 2	Catories4,236 Calories4,371	335 46x	4,461	96x 329	4,300

These figures indicate a greater loss of heat in the case of Cleveland iron. This arises from more carbon being carried off by the action of carbonic acid on the fuel, as well as from the escaping gases having a greater volume and higher temperature than in the Vordernberg furnaces. On the other hand, each unit of carbon burnt in the Cleveland furnace is accompanied by a much higher amount of heat in the blast.

(To be continued.

#### American and European Wages.

Mr. Robert P. Porter says on this subject,

writing from Aix-la-Chapelle:
The following passage from an article in
the Alexandria (Va.) Gazette seems to require

a definite reply:
"Free trade exists in England and protection in Germany, and if the latter system be advantageous to the workingmen, how is it that a comparison of weekly wages in those two countries makes the following remarkable exhibit:

	Great Britain. (Free trade.)	
Bakers	. \$6 50	\$3.50
Blacksmiths	8.13	3-55
Bricklayers	9.03	3.67
Carpenters		4.07
Laborers	5.00	2.93
Plasterers	10.13	3.80

"When Mr. Porter shall explain this satiscountry, and of every man in it, than a pro-tective one, which taxes all the people for the benefit of the proprietors of, compara-tively speaking, a few mines and manufac-tories." This newspaper, it will be observed, neither

gives date nor authority for its wage table Its table was compiled from a report of the State Department made in 1878 (see pages to and 16), and may have been approximately correct at that time. Germany was then enable the firm to save the books able papers. The loss is estimated able papers. The loss is estimated \$20,000. The fire was incendiary. tricts of England, and its own industrial population was on the verge of starvation. Since then the present tariff has been enacted. The Dewsbury and Batley manufacturers have moved their factories to Germany. Yesterday I spent the evening with an Englishman who has built a new shoddy mill in this town and employs 200 German operatives. With this new era of protection, wages have increased, new factories have been built and the "five-year-old" figures of free-trade times no longer apply to the great manufacturing districts of Northwestern Germany, as will be seen by the following statement, which I have obtained through the kind assistance of Consul Du Bois, and which is based on the most careful inquiry in various manufacturing or the kind assistance of the system employed in a polishing room where the speed of the wheels is exc-ssive, and where, until the records as the system of the system o various manufacturing centers :

	Bakers	Wages per week.
	Blacksmiths	6.50, without board,
	Brickiayers	5,50, **
	Carpenters	5,50,
,	Laborers	3,504
	Plasterers	
	VY21 /1 1 1	

the Virginia editor's figures as trustworthy full capacity.

coming report of the Board of Trade, proofs of which I now have, will show that the of which I now have, will show that the English wages in the industries referred to by him are now 20 per cent. lower than the rates claimed by him. Below is a table that will explain satisfactorily, I hope, 'o any 'tariff-for-revenue-only' advocate, that three years of protection have raised the wages of the workingman of Germany:

Weekly wages paid in 1878, before Germany had its present protec-tive tariff.

Weekly wages paid, according to sworn statement, at present time, after three years of the new protective tariff.

\$3.50 | \$3.00, with board. 3.55 | 6.50, without board. Bricklayers.

The world moves, and the economic condition of countries changes. Figures taken from reports five years old are of little use now, and especially is this the case when the country has practically changed from free trade to protection. When one reads of the terrible condition of the working people of Northwestern Germany prior to or about the time when the report referred to was made, he appreciates what protection has already done for its industries. There is much misery now, and wages are very low when com-pared with American wages, but there is not much difference in the wages in France, Germany and England, 'though it must be borne in mind that living is cheaper in Germany than in England.

#### A Siemens Patent Case.

According to Philadelphia advices, Judge Butler, in the United States Circuit Court, recently filed an important opinion in which he dismissed a bill in equity of Charles M. and Frederick Siemens against the directors of the Midvale Steel Co., claiming a royalty upon the use of the Siemens regenerative gas furnace from 1878 to 1881. The Midvale Co. contended that the patent expired in 1878, and refused to pay any penalties after that date. The patentees claimed that their rights did not expire until 1881, and demanded a royalty for the three years. A number of manufacturers paid the royalty. The Midvale Co. contended that the furnace having been patented in England in 1861, the English patent limited the duration of the English patent limited the duration of the American patent under an act of 1839, as amended by an act of 1861, to 17 years, or to July 22, 1878. The complainants con-tended that their patent, which was of March 1, 1864, and on its face was for 17 years from that date, was not limited by the English patent, because the improvements patented here were substantially different from those described and shown in the English patent, and because, even if it were otherwise, the act of 1861 gave all patents thereafter issued a term of 17 years from their date of issue. The American patent, it was consequently contended, did not expire until March 1, 1881

Judge Butler, in the course of his opinion, said: "The language of the act of 1861, that 'all patents hereafter granted shall remain in force for 17 years from the date of issue,' considered in connection with former and existing legislation respecting inventions first patented abroad, was well calculated to create the doubt and embarrassment which have followed. In the absence of decisions by other courts, I believe I would have reached the conclusion that the language first quoted was intended simply to increase the duration of all patents thereafter issued, equally giving to each an additional period of three years without interfering with the distinction so long maintained between indistinction so long maintained between inventions originally patented here and those patented abroad. The question, however, having been fully considered by Judge Biatchford in a case requiring its decision, I am content to adopt his views. The reasons on which he rests his conclusions commend themselves to my judgment. The bill is dismissed."

Burning of the Keystone Lock Works, -On the 23d of May, the buildings of the Keystone Lock Works, Lancaster, Pa., were be dangerous to those who think that a by the middle of November they were in full revenue tariff, which affects all alike, is better for the true interests of the whole of the old one, on Park avenue, in rear of by the middle of November they were in full operation in their new building, on the sits of the old one, on Park avenue, in rear of the Lancaster Cemetery. That building, with its contents, has been destroyed, the walls alone remaining. The building was a two-story brick, 72 x 32 feet in d.mensions, with a basement. It had a flat roof, with just pitch enough to carry off the water. The first originated in the backing room. The office, at the extreme end of the building from the point where the fire originated, remained undisturbed long enough to enable the firm to save the books and valuable papers. The loss is estimated at about The loss is estimated at about

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# The Iron Age

#### Metallurgical Review.

New York, Thursday, May 31, 1883.

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#### CONTENTS.

First Page. - Electro-Motors on Elevated Rail-The Emery-Grinding Rooms of the Yale &

Third Page.-The Emery-Grinding Rooms of the Yale & Towne Mfg. Co. (Concluded). Hollow and Solid Propeller Shafts. A Floating Cannery.

Fifth Page .- Peat. The Ariberg Tunnel. Seventh Page .- The New Bridge at Niagara.

Hardening and Softening Steel.

Ninth Page. - The Manufacture of Rolled Iron in Pennsylvania and Ohio in 1882. Pneumatic Transmisson of Power. Comparative Blast-Furnace Practice.

Eleventh Page .- Comparative Blast-Furnace

Thirteenth Page .- Comparative Blast-Furnace Practice (Concluded). American and European Wages. A Siemens Patent Case. Burning of the Keystone Lock Works.

steenth Page. French Aggressions in the East Sweden's Iro. Trade and General Status in 1882. A Conference of Mill Owners Suggested. The Position of Spelter Southern In justrial Progress

Fifteenth Page .- The East River Suspension Bridge. Industrial Items

Beventeenth Page - Industrial Items (Concluded). A New Pipe-Cutting Machine.

Nineteenth Page .- The Wilkinson Positive embination Clutch. Metallurgical Notes. Manufacture of Pig Iron. Twenty-prat Page .- Trade Report-British

fron and Metal Markets. Financial. General Hardware. Iron. Twenty-second Page. - Iron (Concluded

Metals. Foreign Trade Movements. Old Metal-Paper Stock, & ?: Cosl. Exports. Imports Philadelphia. Chattanooga.

I wenty-third Page - Chattanooga (Conclu Chicago. Louisville. St. Louis. Cincin Biltimore. Richmond. Our English Le: ter. Foreign.

Twenty-fourth Page .- Fereign (Concluded). Forged Letters Repudiated. The Basic Process at Harrisburg. The Enterprise Cherry Stoner, A Novel Method of Handling Lumber. An Ancient Greek Bronze Horse Electric Motors.

Thirty-first Page .- The Iron Age Direc-

Thirty-second Page .- New York Wholesale

Thirty-fourth Page .- New York Wholesale

Thirty fifth Page .- New York Wholesale

The Foreign Iron Market.

A rapid glance at the general situation of reveals nothing that is especially new or interesting. Most branches of trade have been for the past few weeks, and are now, moving along in a quiet and steady manner, lacking any exciting or important feature. This is particularly so in the British centers of the iron trade, sta ionary prices and a dearth of orders being matters of general complaint. At the same time, a gradual weakening of prices for many descriptions of iron is anticipated, and in view of this consumers are holding back, expecting to effect negotiations in the . ear future at more advantageous figures. Probably one of the most interesting features in different British districts at the present time is that arising from the fact of attention being drawn to the employment of women and children in branches subject aroused sufficient interest to bring out replies from the advocates of the system. According to these-and it is a matter of grave doubt whether they have sufficient foundation to merit serious considerationthe movement tending toward the restriction of the employment of women had in view not so much the amelioration of the condition under which females worked, as to remove the competition of female labor. It is not within the province of this article to pursue the question any further, and we would therefore simply direct attention to the fact that the bill favoring the movement, and recently introduced into the House of Commons, was definitely rejected a few weeks since.

Continental advices as to the state of trade are exceedingly meager and leave considerable room for speculation. Austrian reports difference of 10,000,000 crowns in the reare to the effect that the general position of the iron works of that country is satisfactory, especially as prices are of such a nature as to present a good margin of gain to the manufacturer. Pig iron more particularly is in active request, while large orders are received for steel rails and engineering iron. In bar iron, however, business might be a little more active, the Hungarian works only having secured extension orders. The demand for fine-grained iron, wire, &c., is not quite so active, but this inanimation is looked the cereal crcp of 1881 was poor, Sweden's upon as only temporary, and due to the late arrival of the open season.

Belgian market reports show that business has, within the past few weeks, been transacted on a very limited scale, and as a consequence the downward tendency of prices similar state of affairs is recorded, prices being weak and the demand small. It may be of interest to here note that the manufacturers of the Nord district quite recently resolved to establish a depot of their own at Paris. For some time past there has been a certain degree of antagonism between makers and dealers, and the action of the former has certainly not tended to relieve it. An offshoot of the present ill-feeling is a reply of the merchants in the form of a reduction of the price of finished iron by about one dollar per ton. Taking all circomstances into consideration, it would appear that the struggle will end with the defeat of the dealers, unless, as currently reported, they hope to turn the tables by the importation of cheaper iron. However, nothing of a definite character can yet be said as to this point, and subsequent developments alone will yield a reliable answer.

Germany reports an unchanged market for some weeks past, pig iron being quiet, and consumers having fully covered their requirements for the next few months. Prices also are without quotable change, and it is thought that they will remain so for some time. Concerning Russia, Italy, Sweden and the several other iron-producing countries, nothing of particular importance or interest is at hand, favoring the conclusion that in these, as in the other iron cen ters, the markets have developed no new

#### French Aggressions in the East.

It is time that American merchants, and others interested in Eastern commerce. awaken to the precarious situation into which affairs are drifting through the force of political circumstances. The Freuch bombardmen in Madagascar, we may read dy believe, is invested with more than ordi nary significance. So, too, of the alleged French outrage in Tonquin, followed by the announcement of a French protectorate, to extend over the port of Anam. Of French operations on the Cougo River it is needles to speak, except as affording further evidence of a design on the part of the new ministry to recover, if possible, the national prestige lost through the weakness of the Frey inet cabinet in dealing with the affairs of Egypt. We may safely assume that the Chinese Government will never acquiesce in an occupation of territories even nominally under her jurisdiction, or any outlying proince. Her navy is by no means despicable and the French squadron lately at Hong Kong, on arriving at the scene of hostilities, worthy of its steel. A high Chinese official

the British lion in his lair. Plainly enough, another crisis in European affairs is immithe British and Continental iron markets nent, with possible effects, as concerns the British steam lines for transportation, we can commerce of the world, as yet far beyond human forecast.

#### Sweden's Iron Trade and General Status in 1882.

Although Sweden is not a large producer and exporter of iron, the quality of the latter is so generally appreciated that the increase or decrease of output is watched with considerable interest. Of late, zinc production has also become of some importance in that country, and the amounts of blende exported are steadily increasing. The export of bar iron amounted last year to 154,-000 tons, against 136,000 in 1881; of other finished iron, 56,000 tons, against 52,000; of steel, 9800 tons, against 7165, while pigof the iron trade. This point has of iron exportation was the same as the pre-late been discussed with considerable vious year, 55,500 tons. The price of ordiactivity, and the efforts of opponents to nary sizes bars and pig at Stockholm ranged pounds American, and the crown being worth

The same of the bosts	Bars.	Pig.		Bars.	Pi
1870	6,50	2.70	1877	6,60	2.
1871	6.88	3 87	1878	6,50	2.
1872	9.75	5.26	1879	5-75	2.
1873	13.16	6.75	1880	7.30	3.
1874	3C.97	3.98	1881	6.50	2
1875	10. 10	3.62	1883	6.40	3.
x820	-8-20-	2.56			

Of blende, Swede nexported to England and Belgium no less than 22,200 tons, against 15,400 tons in 1881.

Timber and lumber exportation has increased prodigiously of late years:

Cubic meters The excessive amount of lumber thus thrown on the English market last year produced a decline there of £1 per standard, making a ceipts in Sweden, so that Swedish lumbermen have resolved to curtail their sawings 25 to 33 per cent. this year.

In the export of breadstuffs there has also been a noticeable increase. The export of oats rose from 402,000 cubic meters in 1881 to 516,000 in 1882; barley from 30,000 cubic meters to 60,000: wheat flour from 630 tons to 4000, and rye flour from 62 tons to 2000. Tar, as well as wood-pulp for paper manufacture, show quite an increase. Although capability of consumption was not affected thereby in 1882, and with the exception of foreign brandy, American hog products and leaf tobacco, nearly all other articles were imported in 1862 in larger amounts. Of coffee, 14,000 tons were imported, against remained unchecked. In France a 10,400 tons, and 36,400 tons of sugar, against 34,070. Hides, meat, cheese, hardware, machinery, butter and eoal all show an

This activity in Sweden's foreign trade and prosperity at home have imparted a great impulse to the creation of new share ompanies, of which there were founded 2 insurance companies, 4 banks, 15 railroad ompanies, 13 shipbuilding companies, 46 factories and 34 miscellaneous companies; gether, 114 companies on shares, with a oint capital of 60,000,000 crowns. Two new railroads went into operation in 1882, the Simrishamm-Tomelilla and the Halmstad-Jonkoping. Deposits in bank rose from 274,000,000 crowns in 1881 to 281,500,000 in 1882, and advances made by banks to customers from 349,000,000 crowns to 359,000,000. The finances of the country show the following excesses of income for 1882 over and above the revenue previously estimated in the budget: Governmen railroads, 2,300,000 crowns; Governmen forests, 700,000; import duties, 4,000,000 and in other departments, 600,000; together, 7,600,000 crowns, or, in our money, \$2,052, The money market was easy through the reserves of banks being kept tween bank notes and specie (gold) at 10.000.000 crowns, which included 20.000.000 rowns gold coin.

The national debt of Sweden, contracted solely for the construction of Governmen railroads, amounts to 230,356,239 crowns, or 62,196,185 of our money, a mere trifle, con idering that the population numbers 4,578, or souls, and that every dollar represent ailroad property leaving the State annua surplus earnings. Sweden is one of the olid countries in Europe, not making much noise, politically-even less than the Nether-She possesses a quiet, hardy, labor ands ious population, and the portion that has of ate years been attracted to our shores is among the most desirable of our immigra- there was then in the country a stock of The bulk of Swedish immigrants ettles on the rich wheat lands of the Northwest, and thus forms a most valuable accession to our agricultural population.

A great exposition is to open in Calcutta n November, but thus far American merchants manifest little interest in the preparaions. Our trade with that country is no onger what it was, nor can we expect soon American exporters find very little merchanis quite sure, sooner or later, to find a foe tions of merchandise are in British hands. Of and importation is thereby discouraged. cotton manufactures England exported in Thirty-winth Fage .- Philadelphia and Pitts- has already been summoned from Pekin to 1881 no less than \$91,643,000, and of metals Sargant & Son, under date of May 5, say take command of the beligerent forces. to the value of more than \$15,000,000. The that spelter has further declined in value, Fortieth Page .- Boston Hardware and Metal England is also to be heard from. A menace comparatively insignificant trade between the and, in the face of the greatly increased proto her trade in China and India, from what- United States and India results in a balance duction, a further fall may yet take place. and in the wide range being given to enter-

which must be returned in the shape of bills of the years named below were as follows: on London. So long as we are dependent on hardly hope to build up a successful trade in that direction, and there is little motive to participate in an exhibition at Calcutta.

#### A Conference of Mill Owners Suggested.

We have received the following letter from Mr. Oliver Williams, of Catasauqua, Pa., a gentleman whose suggestions are always wise and timely, and his letter should, and probably will, receive the immediate attention of Eastern rolling-mill owners: CATASAUQUA, May 28, 1883.

To the Editor of The Iron Age—DEAR SIR: The practical workings of the revised tariff will necessitate a radical change in the present list of extra sizes in merchant iron and steel. For some years previous to the adoption of the present classification no general schedule existed, but each mill made its own list of extras, to the great confusion of activity, and the efforts of opponents to nary sizes bars and pig at Stockholm ranged buyer and seller, and to the pecuniary ruin female labor in this particular field were at an average on board ship as under (in of some manufacturers who did not realize apparently not fruitless. At any rate, the crowns per cwt., the latter weighing 93 that the sole profit of from making, in an era of low prices, was in the advance obtained for the extra sizes. The present scale, which was framed by a very large meeting of iron manufacturers, held in Philadelphia in October, 1879, has been more widely adopted and more honestly lived up to than any schedule heretofore known in the trade. It would be claiming too much to say that it has been universally carried out, but practically it has been so, to the great satisfaction of both manufacturer and merchant. The question now arises, Shall we go back to the system of "every man for himself?" If so it will not be difficult to name the distin guished rerso age who very soon will be in position to "take the hindmost." To avert this fa'e, the writer suggests an early conference of all interested parties. There being no existent Association of Iron Manu-There facturers, no meeting can be authoritatively called. I therefore propose that all manufacturers favoring such a conference drop a line to Mr. W. E. S. Baker, 122 Race street, Philadelphia, suggesting time and place, with the understanding that Mr. Baker be authorized to call the meeting provided not less than 20 mill owners unite in the appli-cation. Very respectfully yours, OLIVER WILLIAMS.

In view of the comparative frequency with which it is necessary to hold trade conferences, we think it would be wise at the proposed meeting to take steps looking to a permanent organization, with an executive committee having power to call meetings whenever the interests of the trade shall seem to demand them. It is not necessary, perhaps, that such an association should have any costly machinery of organization, or that it should publish annual statistical reports; but it is important that it should be representative, and we see no difficulty in the way of effecting such an organization.

#### The Position of Spelter.

The position of spelter since the beginning of the year has puzzled the metal trade a good deal. A rather favorable opinion as to the activity that was to develop and the prices that were to rule had been formed early in the year, in view of the abatement in imports and the moderate production known to be going on out West. Five months have passed, yet at no time since January I has there been even a ripple of animation in this metal on this side of the Atlantic, while the price has hardly ever varied from 43/4 for Common Domestic during the interval, against the following range in former years : LOWEST AND HIGHEST PRICE OF COMMON SPELTER-

1879.	188o.	1881.	1882.
Jan 4% @ 4%	63/8 @ 63/4	5% @ 5%	5% @ 6
Feb4% @ 5	614 @ 6%	5% @ 5%	5% @ 6
March 141/4 @ 41/4	6% @ 7	5 0 5%	5% @ 5%
April 4 % @ 4 %	6 6 634	4% @ 5%	5/2 @ 5%
May 4 2 @ 4 1/4	6 @ 614	479 @ 579	5 0 5 1/4
June 43 @ 45	5% 40 5%	4% 20 5%	5% @ 5%
July 41/2 @ 4/5	5 @ 5%	4% @ 5%	5% @ 5%
Aug 5 @ 5%	5/8 @ 5	5 @ 5%	5% @ 5%
Sep 6 % 6 % Oct 6 % 6 %	5 6 5%	5% @ 5%	5% @ 5% 5% @ 5%
Nov 61/2 @ 61/2	476 6 5	5% @ 5%	4% @ 5%
Dec 6 @ 614	4% @ 4%	5/8 @ 0	4% @ 4%

States during the first nine months of the

16,481,366	
3,531	16,069.700
16,477,835 818,645	16,055,333 1,115,626
15,659,193 6,991 771	14.939.701 6,669 741
	15,659,193

We estimated on January 1, 1883, that spelter and sheet zinc of 7500 tons, and remarked that with light imports normal consumption would probably be able to work off this stock, together with current domestic production, during the ensuing five months. This, from all appearances, has not been the case, the disappointment being due, we believe, in the first place to a non-revival to the extent required in the demand for galvanized-iron goods, and in the second place o recover lost ground. Besides petroleum, to the late spring and poor spring trade. If the supply had been materially lessened at lise suited to that market. Provisions and this time even a moderate demand would canned meats of every sort are excluded by bave started an upward course of prices, for and experience, of other sections in co-operthe popular predjudice, and other descrip- we are considerably below European parity,

About the London situation Messrs. W. T.

ever source it may come, would quickly stir against us of some \$8,000,000 per annum, Stocks at London and outports on April 30

1883. 1882.

LondonOutports	Tons. 136 3,311	Tons. 35 3,218	Tons. 814 2,852
Total tons	3.347 £15	£16. 15/	2,066 £15. 7/6
The same firm also sheet zinc at a furt ton, and state that rolled at the Lond held as follows: 1 sold at £18. 15/per sold at £18. 15/per sold at £18. 5/per to £18 per ton, net capackages. At the Chapelle Co., in Funder date of May I, company alone in excess of the produc of 10 per cent. in a	report : ther rect their ton Zin March : er ton ; ton ; ton ; Mash at t same Rhenish that t 1882 w etion in	a very slot duction of sales of e Mills he 15, 1883, April 5, April 19, y 3, 60 ton he mills, time the Prussia, he output as 3500 1881, an	w sale of f 10/per the zinc ave been 45 tons, 60 tons, 70 tons, s, sold at without Aix-la- report, to of this tons in

The German production was, in 1880, 99,646 tons; 1881, 105,478; 1882, 109,000. The European production was, in 1881, Germany, 105,478 tons (of which 65,439 in Silesia); Belgium, 85,000; England, 22,000; France, 13,715; Austria, 3200; total, 229,-393. The Aix-la-Chapelle Co. value European production in 1882 at 245,000 tons; in 1880 it was 220,000 tons.

						(	J	7	a	l	u	e	8		i	n		1	P	e	8	ď	t	Œ	8	1	01	· Francs.)	
																												Tons.	Value.
1878.																												33-533	2.011.054
1879.																												27,613	1,507,781
188a.																												12,491	1,78¢.995
. 188s.		0	0							0	۵	0					0	0				0	0	0	0 1	0 1	0	30,604	8,570,848
1883.	0	0	۰									0	0	۰			0				0	0		0		0	D	25,832	1,291,621
7	'(	of	t	3	1																							0. 0	8,178,19

The above figures show that at least the xport of calamine from Spain, the bulk of which England usually gets, has not increased of late years, but, on the contrary, fallen off.

In what quarter spelter production greatly ncreases just at present the London firm's circular quoted from does not state. Perhaps Messrs. Sargant allude to the general European increase of 6½ per cent. last year. With the growing popularity in Europe and elsewhere of galvanized ware, we should judge that an increase of production in Europe of 61/2 per cent. is only in conformity therewith-that, indeed, it is rather small. Hence we are led to suppose that somewhere in Europe, perhaps in Poland, an unusually large output, which has come to the knowledge of London operators, may be going on this year.

#### Southern Industrial Progress.

Gratifying accounts come from the South, through a variety of sources, respecting the rapid industrial progress of that section of the Union. There is not only development, but a diversity of interests auspicious for permanent restoration of prosperity. Georgia, Louisiana, South Carolina, Virginia and Alabama are among the States that lead, but everywhere, according to credible witnesses who have been over the ground, there are substantial signs of material recuperation. An intelligent representative of the Southern States, Mr. Patrick Calhoun, grandson of the South Carolina statesman, has expressed his views of the present situation at considerable length, and makes some declarations respecting the ravages of the war and processes of repair for which the public are hardly prepared. For example, in regard to Georgia, one of the most prosperous States, he represents that, notwithstanding the progress of recent years, she is poorer by many millions of dollars than before the war. Her real estate was valued last year at \$157,000,000, or \$53,000,000 less than in 1860, and personal property other than slaves has probably depreciated in equal proportion. The people, however, are not disheartened. Everywhere, we are told. a more hopeful feeling prevails, and it is but the beginning of a great industrial revival. Mr. Calhoun says

The Southern people have gone to work in earnest. Nothing interests them so much as material progress. No man is more honored than he who contributes to it. The time wis when outside of a few cities politics and he professions offered the only avenues to reputation. To-day every branch of industry effords to aspiring genius opportunities of gaining the plaudits of the people and satisfying honorable ambition. The name of Furman, who, through five years of industry, increased the yield of his land fivefold by the use of a h made compost, is as well known in Georgia as the name of the Governor. The people are learning co-operation. Their capital is going into the deca-operation. Their capital is going into the development of the varied resources of the South But the development of her resources is not lef alone to the capital of her sons. It co-operates with the great capital of the East in her mines. her factories, her railroads and her cotton fields.

The law-abiding element prevails, and, acording to the same authority, "the spirit that enabled those in control to regain possession of the'r Governments and restore law and order will enable them to retain the one and maintain the other." The people are very deficient in mechanical skill, but that they confiden ly believe will come in time. Another ground of satisfaction is the absence of rivalry with other sections engaged in manufactures. On the contrary, there is an acknowledged identity and interdependence of interes, which leads the South to seek the capital and skill, the intelligence ation with her own. We may reasonably believe that these statements do not partake too largely of the couleur de rose. The fugitive accounts reaching us month after month by telegraph and mail aff rd conclusive evidence that in working cotton and iron.

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of \$ ginee ors o time catio prove great to hi havin mum \$9,50 the b 1875 by the them, streng gineer the co

pende when approx

prise, agricultural and mechanical alike, the South is entering upon a new era of great promise.

1869, while standing upon the rack of one of the slips of Fulton Ferry, directing the department of the slips of Fulton Ferry, directing the department of the slips of Fulton Ferry, directing the department of the slips of Fulton Ferry, directing the department of the slips of Fulton Ferry, directing the decay timestone. All backing is cut and laid in courses with a minimum of mortar joints. The caiseon naturally settled under the support which of the many proper was 15 ½ inches, the slips of Fulton Ferry, directing the decay timestone. The caiseon naturally settled under the support which of each cable Many 1869, pounds, and

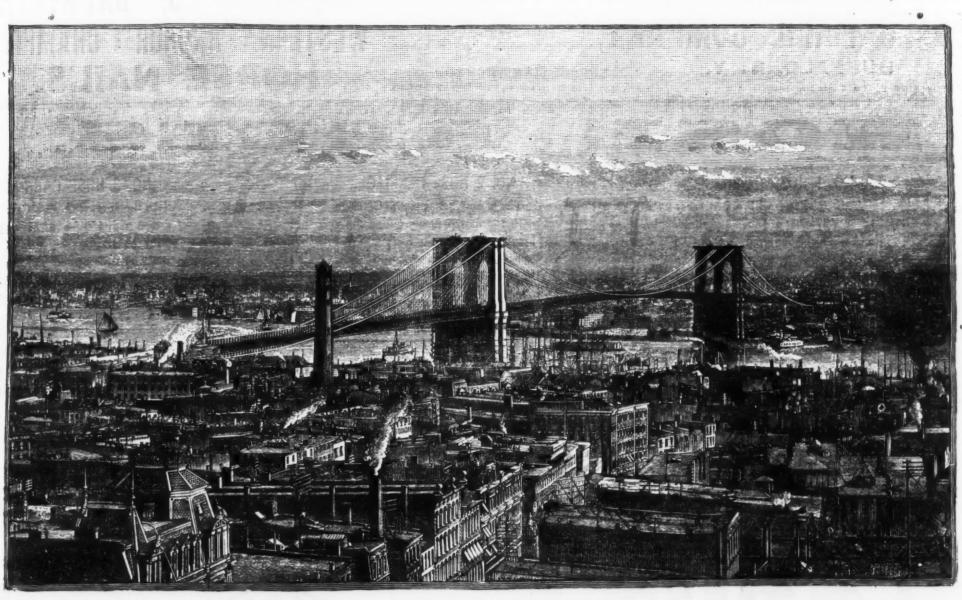
As we go to press a day earlier this week than usual, owing to the occurrence of a national holiday on our usual day of publication, our customary weekly advices from Pittsburgh have failed to reach us, and we are unable to print our usual clibral summer as a free water-way how a large decline of the free gines or to the successful mass as free water-way how a large decline of traffic, as do also the railroads, compared with the corresponding date last year. But when the demands of Europa are more pronounced, the movement to the seachast will be on a more libral scale.

The Est River Suspension Bridge.

The Firefineds of the enterprise and the politic of the fire of Thursdy the zith inst. The firends of the enterprise and its opponents, the enthusiastic believers in its importance to the two circumstance was proposed to the enterprise and its opponents, the enthusiastic believers in its importance to the two circumstance and its opponents, the enthusiastic believers in its importance to the two circumstance and its opponents, the enthusiastic believers in its importance to the two circumstance and its opponents, the enthusiastic believers in circumstance and the control of the river of 1873 they presented their reports. This indicated very form and its importance to the control of the prospect of the traffic or Thursdy the zith inst. The Firends of the enterprise and its opponents, the enthusiastic believers in climpton of the proposed of the reach of the proposed of the response of the control of the proposed of the response of the respons

#### INDUSTRIAL ITEMS.

MAINE



VIEW OF THE EAST RIVER SUSPENSION BRIDGE LOOKING NORTHEAST.

scraping to the irresistible logic of accomplished facts. For the information of a large circle of readers for whom the subject plished facts. is likely to have interest, we present a very striking picture of the great bridge and a brief summary of a few salient facts per-taining to its history and its construction.

In the beginning of 1867 State Senator Henry C. Murphy introduced and had passed an act of the Legislature, incorporating the New York Bridge Co., with a capital stock of \$5,000,000. On the 23d of May, 1867, John A. Roebling was appointed chief en-His plans, submitted to the direct ors on the 1st of September following, fixed ne cost of the bridge at \$7,000,000, and the time of building at about five years. Modifications of those plans and changes and improvements of one kind and another have greatly added to the dded to these figures. In 1872, his W. A. Roebling, having succeeded to his father's position as engineer-in-chief of this work, and the hight of the bridge having been reduced from 200 to the maximum hight of 135 feet, estimated the cost at when the estimated In 1873. cost of the land was added, the total cost of the bridge was raised to \$13,045,065, and in 1875 to \$13,145,065. The act of 1875, howprovided that the interest on the bonds issued by the two cities should be paid by the trustees out of the money received by them, and this added \$1,500,000 more to the Then the structure was increased in cakum and pitched, to prevent the the cost. About \$16,000,000 have been expended on the bridge now, and the total cost, when all improvements are made at the approaches and the arches are fitted up for warehouses, will not be much short of \$20,000,000. The yearly cost of maintaining the bridge, including interest on the bonds, will be about \$1,000,000.

the title of the private stockholders by purchasing their shares in the new company and reimbursing them in full, with 7 per cent. Interest added to the amount of their subscriptions. Under the new order of things the bridge became public property, Brooklyn paying for and owning 66% per cent. and New York 33% per cent. We have neither the space nor the inclination to any further into the financial history of the bridge. Expert accountants and engineers appointed by the two Mayors of New York and Brooklyn are at present engaged in looking into the accounts of the concern. nd we sincerely trust that their forthcom ing report, whatever it may be, will be the last heard of the unsavory subject

The Brooklyn caisson was the first one to be built. It was 172 feet long, 102 feet wide and 22 feet high, with a solid timber roof 15 feet in thickness. The sides of the caisson were 9 feet 6 inches high, and tapering lownward from 8 feet in thickness where they joined the roof to 8 inches in thickness where the cast-iron V-shaped shoe was bolted on to them. The interior of the caisson was divided into six partitions or compartments by timber walls 2 feet thick and strongly braced. Communication between these con partments was maintained by one opening in each timber wall, large enough to admit of the passage of a man with a wheelbarrow. All the inside joints were well calked with strength over the original plans of the en-gineers, and that added considerably more to an additional protection against the ingress of water. This sheathing was further cov-ered by a layer of 3-inch plank treated with creosote. The material underlying the Brook-lyn tower was found to be hard pan, with

uable, and the danger of fire was here holds the suspender socket in place. cent. interest added to the amount of their in May, 1872. The Brooklyn tower was completed in 1875 and the New York tower in the summer of 1876. The weight of the Brooklyn tower is 70,000 tons of masonry, and that of the New York tower is 90,000 tons of masonry. Situated 030 feet from the ottom of each tower are the anchorages, weighing each 60,000 tons in massive masonry. The dimensions of these anchorages, which come next in importance to the towers, are 132 feet in length, 119 feet in width and 90 feet in hight at the foundation line. They gradually diminish in bulk, and on the top are 117 feet in length, 104 feet in width and 80 feet in hight at the land ends. They are built of limestone and granite, and imedded in each of them are the four and plates, one for each cable, weighing 23 tons apiece. These anchor plates are made of cast iron, and measure 16½ x 17½ feet on the face, and are 2½ feet thick at the cen-Riveted to the anchor plates are wrought-iron anchor bars, which extend to the top, and these receive the ends of the bridge cables. The connection between the anchor bars and the cables is effected by a this are wound the and around wires which compose the cable.

The original plans contemplated the construction of the approaches in wrought iron. This was subsequently changed, and the approaches carried out in brick and Pearl street, however, was crossed an iron bridge. The length of the Ne York approach from Chatham street to the anchorage is 1562 feet and 6 inches. The Brooklyn approach, from Sands street to the anchorage, is 970 feet in length. The grade 20,000,000. The yearly cost of maintainalternate layers of trap bowlders imbedded
to state the yearly cost of maintainalternate layers of trap bowlders imbedded
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to state the yearly cost of maintainalternate layers of trap bowlders imbedded
to state the yearly cost of maintainin sand and clay. The foundation masoury
which was put on top of this caisson is
the last wire was run over in October, 1878.

Mr. John A. Roebling, in the summer of Kingston limestone up to high-water mark;

guns were fired off, or fired themselves off; graded off, or fired themselves of the following graded off, or fired themselves of the following graded off, or fired themselves of the following graded off, or fired themselves of the f averted by lining the inside with boiler iron. The Brooklyn caisson reached bottom feet near the towers to 3 feet in the center in March, 1871, and the New York caisson of the span. There are 208 suspender ropes of the span. There are 208 suspender ropes in the main span of each cable, and 8) is the land span of each of them. The ca culated strength of these suspenders is 1.40, pounds each. As soon as these suspender ropes were all placed the suspension from them of the steel floor beams and their con necting trusses was commenced. The de lays in the manufacture of the suspended superstructure and other incidents pertaining to the execution of this contract are of such recent date as to be probably quite fresh in the memory of our r Suffice it to say that instead of our readers. ing 5500 tons, as was at first proposed, iron, the completed steel structure weighs 6520 tons between anchorages. The total length of the cross floor beams is 86 feet, and their depth over all 32 inches. six trusses. The center ones are 17 feet six trusses. The center ones are 17 feet between pin centers, and the side trusses 8 feet 9 inches high between pin centers. These longitudinal trusses divide the flooring into five parts, the outer ones of which are double wagon roadways, the two inner divi-sions single railroad tracks, and the center

> Total dead load of bridge, tons.... Calculate imaximum live load, tons Total length of bridge, feet. Length of river spac, feet. Length of land spans, feet.

There has been a change in the firm of orehand & Wadsworth, of Worcester, but the firm name remains the same. They employ upward of 100 skilled workmen, and are working on contract orders which will last them through the year. Breech-loading shotguns and revolvers are the principal products. Their manufactory is a continua-tion of the business so widely known under Allen & Thurber, then Allen & Wheelock, and, later, Ethan Allen & Co.

PENNSYLVANIA.

The Kensington Engine Works, Philadel-phia, have just completed a large Buckeye throttling engine, 24-inch diameter cylinder, for Harrison, Havemeyer & Co's sugar refin-ery. This engine is said to be a great advance over any previous design or type of and was selected by H. & Co. as being the most economical. although the price paid was higher than asked by other builders for the same asked sized cylinder. The engine will be set up in their pan house in Philadelphia that was recently destroyed by fire.

It begins to look like active work at the one, which is elevated above the others, one, which is elevated above the others, forms a promenade for foot passengers, 15 feet 7 inches wide. The cars will be run over the bridge by endless wire rope, the machinery for which method of propulsion is located at the Brooklyn terminus. The following data referring to the bridge may be of interest to our readers:

yard of the American was started in the boilers a few days ago. Commander Gorringe, the president of the company, was busy at the yard all day superintending affairs, and gangs of men were at work in all parts of the yard. A Corliss engine of the of interest to our readers: used, and it is now ready to run at an non-notice. Everything is in readiness for opera-tions on a large scale. The building of a marine railway capable of taking on a 3000-ton vessel will be commenced at the and a

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## HOSE



NO. 1 HOSE CARRIAGE. This Carriage will easily carry

seventy-five feet of 4-inch 3-ply hose, and while one hundred feet can be reeled upon it, we recommend a larger size for that quantity. As shown in the engraving, it has fifty feet of heavy 1-inch 3-ply hose upon the reel. It is finished in bright colors, stands up firmly, and occupies but little space.

PRICE, -



NO. 2 HOSE CARRIAGE.

The engraving shows a Carriage with 150 feet of heavy 4-inch 3-ply hose wound upon the reel; 200 feet can be easily coiled upon it. It is light, compact, and convenient to hand. For shipping great distances, this size, in common with the others, can be packed in crates, not set up, and occupy the least possible



REELS.

NO. 3 HOSE CARRIAGE.

In the engraving, this Carriage is shown with 200 feet of heavy 1-inch 3-ply hose upon the reel. On account of the elevated position of the reel, this Carriage is convenient to handle; the stooping position required by some patterns of hose carriages, or in coiling hose in the oldfashioned way, is avoided. The axle is of wrought iron and firmly set.

PRICE, - - \$4.20.

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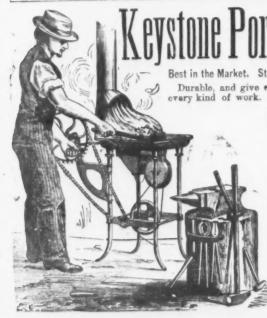
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PENFIELD BLOCK CO., Lockport, N. Y. HENRY B. NEWHALL CO, 105 Chambers St., New York & 47 Pearl St., Boston,
(J. H. Work, Manager.) Eastern Agents.
S. H. & E. Y. MOORE, 163 & 165 Lake Street, Chicago Agents.



Durable, and give entire satisfaction. All sizes for

Pressure Blowers AND

Exhausters. Send for Catalogue.

MANNING, MAXWELL & MOOFE,

New York Agents, 111 Liberty St. Keystone Portable

204 North Fourth Street, PHILADELPHIA PA.

Forge Co.,





WITH PATENT ADJUSTABLE ATTACHMENT. The only Saw that can be adjusted for either a One-Man or a Two-Man Saw. We make the following lengths, 31/4, 4, 41/4, 5 feet. Send for sample.

WHEELER, MADDEN & CLEMSON MFG. CO., Middletown N. Y.

IMPROVED UNDER PATENTS OF 1875 AND 1876.

Safety, Economy in Fuel, Low Cost of Maintenance, Dry Steam without Superheating, Large Reserve Power ARE THE ADVANTAGES OFFERED BY THIS BOILER IN A PRE-EMINENT DEGREE.

3000 Horse-Power in Progress and for Immediate Delivery. Correspondence Solicited.

## EDGE MOOR IRON COMPANY,

SOLE LICENSEE AND MANUFACTURER FOR THE UNITED STATES,

. .

POST OFFICE, WILMINGTON, DELAWARE.

Philadelphia Office, 1600 HAMILTON STREETS

New York Office, 79 LIBERTY STREET.

WM. SELLERS, Pres. JNO. SELLERS, JR., Vice-Pres. ELI GARRETT, Sec. and Treas. GEO. H. SELLERS, Gen. Supt.

# Post's Waterproof Belt Oil and THE IP NAIL Leather Preservative,

FOR WET AND DRY LEATHER BELTING.



Leather dressed with this oil will not crack or rot, as heat, cold, water or gas has no effect on it. It will spread one-third further and la t much longer than any oil for the same purpose. It never turns rancid: will keep in any climate. Belts may be run in water at one end, and a hot room at the other, and still be soft, dry and pliable. Warranted not to start glue laps or gum on belts or pulleys, and to keep the surface perfectly smooth. Beware of imitations sold at a cheaper price, the color of which is well calculated to deceive.

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ESTABLISHED AGENCIES IN THE UNITED STATES:

J. B. Hoyt & Co., New York.

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E. B. Preston & Co., Minneapolls,
—Minn.
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SCOTLAND: Robert Balderston, Glasgow. ENGLAND: J. Hunter Watts, London. We solicit Correspondence from Dealers in Manufacturers' Supplies,

E. L. POST & CO., No. 10 Peck Slip, N. Y., 8 SOLE MANUFACTURERS.



Of Every Quality and Description.

Taunton, Mass., and 78 Chambers Street, New York.

# CROWN WATER METER.

PADOPTED BY THE

DEPARTMENT OF PUBLIC WORKS.

NEW YORK CITY.

# National Meter Co.,

JOHN C. KELLEY, President,

No. 51 Chambers St.,

NEW YORK.

## The Medart Patent Wrought Rim Pulley

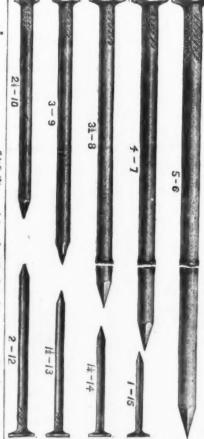


THE LIGHTEST STRONGEST! BEST RALANCED AND CHEAPEST IN THE WORLD.

We make Whole Pulleys from 9 inches to 96 inches diameter, and plit Pulleys from 12 inches to 60 inches diameter. All widths of face to 32 inches crowning and up to 36 inches straight; also tight and Double Arms.

Absolute Satisfaction, Guaranteed. SEND FOR PRICE LISTY

MEDART PAT. PULLEY CO., 105, 107 S. 7th St., St. Louis, Mo. Scrap Iron, Old Rails, Pig Iron, &c., &c., quoted at howest of prices. Cable Address "Gentlan,"



## WIRE NAILS

Barbed or Plain Steel, Iron and Brass Nails, Cast Steel Wire Brads, Cast Steel Wire Finishing Nails, Cigar Box Nails, Escutcheon Pins, Wagon Nails, Clinch Nails, Hinge Nails, Wire Spikes for Track, Bridge and Dock Work, Tinned Nails, Galvanized

# T. NEW'S

\*T. NEW, 39 John St., New York. BARRETT, ARNOLD & KIMBALL Western Agts,, Chica o, Ill.

> NELLIS, McINTIRE & CO. Hannischers Belin' Bledre Spring Agitators,
> For Calitrators, Harrawa, Seeders and
> Semoothing Harrawa, Seeders and
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> Seed Cartage, Mellis' Ornmental Feeding, Saliings and Creetings, Agricultural Steels of all kinds,
> Crucible Cast, Iron Centers, and Open Hearth Steels.
> Fost Augers and Diggers, &c.



ICE CREAM FREEZERS, TORREY'S PATENT,

S. ROEBUCK & CO., Manufacturers, 164 FULTON ST., NEW YORK.

VARIETY METAL BOOM.

Iron Foundry and Machine Shop. STEAM HEATING BY DIRECT RADIATION in all its Branches a Specialty. Brass and other Metal Moulding, Casting and Finishing. Noiseless Vertical Engines, Hydrants, Fire Plugs, &c.

FRAS. B. BANNAN, Pottsville, Schuvlkill Co., Pa.

158 Leadenhall Street, LONDON, ENGLAND. IRON, TIN PLATE AND METAL MERCHANTS.

powerful steam tugs 100 feet in length each. No, 4 will be a ship similar to No. 1, and Nos. 5 and 6 will be steam colliers 260 feet long, while Nos. 7 and 8 will be large lighters for use in New York Harbor. Nearly 400 men are now at work in the yard, and in a short time 1800 men will be given employment. A feature of the yard will be the introduction of 400 electric lights. tion of 400 electric lights.

J. Billerbeck, Keystone Screw Works, Philadelphia, has recently extended his the 25th the blast was successfully put on. facilities for the manufacture of iron gimletpointed wood screws by the addition of new and improved machinery. Owing to the im-provements and increased capacity at these orks, the trade can be supplied promptly with the usual sizes of screws.

Vesta Furnace, Lancaster Co., owned and operated by Watts, Twells & Co., Limited, was put in blast in December, 1881, and has George Daniels, George E. S. had a very successful run since then. Not a day's yield of iron is said to have been lost. They average about 1000 tons output per month. Henry M. Watts & Son are arranging to put in blast their Marietta Furnace No. 1, which was thoroughly repaired some time ago.

Elizabeth Furnace, a few miles below Altoona, it is said will be put in operation next month.

The Harrisburg Nail Works have been experimenting successfully with the manufacture of nails from steel made at the Pennylvania Steel Works.

The Allentown Iron Co. have again suspended operations, and will probably not resume until a reorganization is effected.

their furnace at Frankstown, Blair County. expect to build a branch house in Cleveland.

tons burden, and Nos. 2 and 3 will be There will be three batteries of boilers of two steel lolors to each battery. The building for these is not commenced.

The Ironton Register is the authority for the statement that on July 3, 1882, the Bel-font Furnace was "banked up," and was kept in that condition for the purpose of making improvements to the plant until April 23, 1883, when it was opened and 20 feet of fire were found in the stack. Nine months and twenty days had elapsed. On the 25th the blast was specifully not on

Lambert Brothers, machinists and boiler makers, of Ironton, are employing three times their usual force on orders for the surrounding mills.

Round & Co., chain manufacturers, of Cleveland, have purchased more ground and

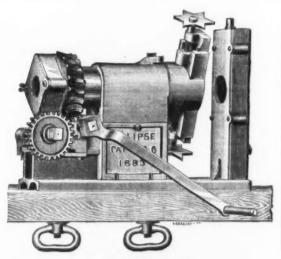
George Daniels, George E. Sharpe, James Duffy, A. C. McKee and James D. Smith have received a certificate of incorporation for the Steubenville Iron Works, the capital stock being fixed at \$150,000. The company have purchased the merchant iron and hoop will at Alikanya which they have been seen as a second control of the steam of the second control o mill at Alikanna, which they have been operating. The purchase also includes the valcable deposits of coal near the works.

The Akron Beacon reports the establishment of glass works in that city, in which Akron capital is invested.

The Portsmouth Iron and Steel Co. an-ounce that their mill at Portsmouth will be sold on June 13. The mill is an iron-rolling mill, but includes an open-hearth steel plant.

Sume until a reorganization is effected.

The Cambria Iron Co. have blown out the Diebold Safe and Lock Co., of Canton,



A New Pipe-Cutting Machine.

that it does not pay them to run it.

The Thomas Iron Co, announce that they will shortly blow out two more of their blast

Temple Furnace, in Berks Co., has been

Considerable of the machinery at the Love Sewing Machine Works, at Rochester, has been received and set up. The company ex-pect to commence turning out 300 machines

weekly by July 1. A portion of the building of the North

American Smelting Co., of Philadelphia, was recently destroyed by hre. The structure was damaged to the extent of about \$10,000, nd a few hundred dollars' worth of patterns belonging to the company were rendered useless by water.

PITTSBURGH AND VICINITY.

The Atlas Works, Limited, have just completed for the New York Plate Glass Works, at Hite's Station, on the West Penn Railroad, another "table," the dimensions and weight of which are as follows: Length, 20 feet; width, 10½ feet; thickness, 6 inches; weight,

They have not fully decided vet the exact kind to build, and are running two at present.

VIRGINIA.

On the 1st inst. the fires were lighted in the Victoria Furnace, at Goshen, Rockbridge the Victoria Furnace, at Goshen, Rockbridge County, Va., which had been in process of construction since August, 1881. The furnace is 85 feet high and 20 feet in diameter at the bosh. It is supplied with Simens-Cowper-Cochrane hot-blast stoves, and is also thoroughly equipped otherwise. The corporation owning this furnace is composed of English stockholders, organized as the Iron and Steel Works. Association of Virginia and Steel Works Association of Virginia, Limited. The resident manager is Mr. Wm. N. Page. We expect to hear good accounts from this magnificent plant.—Iron and Steel Bulletin.

Operations in connection with the Kelly Nail and Iron Works, of Ironton, are now rapidly progressing. The building for the rolls is completed, and that for the boiling furnace has the framework about done. The furnace has the framework about done. The nail factory will be of brick and the walls are now well under way, nearly half done. The nail factory will be 280 feet long by 100 feet wide, except at the center, where the width will be 112 feet. The building for the rolls is 140 x 110 feet. It is at the upper end of the nail factory, and runs at right angles with it. In this building three large heating furnaces are now being erected. Each furnace is to be provided with a wrought-iron stack 53 feet high. The building for the boiling furnaces is 136 x 70 feet, and stands on the bank of the river, so that the river breezes pass uninterruptedly through it. It will contain 16 boiling furnaces. In the will contain 16 boiling furnaces. In the various buildings and foundations there will be 600,000 red brick and 140,000 firebrick. There will be 700 tons of machinery and castings. The two big engines for the forge and factory and the nail machines will come from Totten & Co., Pittsburgh. Nearly all the other ironwork will be done at the works.

It will be idle for some time, as the firm say | They have discussed such a project, but have decided not to carry it out.

The present proprietors of the Forest City Iron Works, Cleveland—Messrs. Atkins & Clark—have sold out to their respective fathers.

The Wilcox Journal Box Co., of Cleveland, capital stock, \$100,000, has been incorporated.

The new rail shears at the iron and steel mill were started up last Wednesday, and work perfectly. It is a heavy piece of machinery, with shears and upright engine combined, and stands outside the mill at the lower end. The forge department of the mill is off this week, till the supply of muck iron in used we. The muck shears were iron is used up. The muck shears were broken last Friday, and are being substantially repaired. Furnace working smoothly, making about 40 tons of No. 1 mill iron.— Lonton Register.

Perrin & Gaff Mfg. Co., Jeffersonville, manufacturers of picks, sledges, mattocks and a general variety of builders' hardware, are now running full of orders, employing 600 hands. They have recently put up in their Adams & Co., glass manufacturers, have torn down the old furnace in their South Tenth street factory, previous to erecting a out 1600 pick-eyes a day. These new accessions will be a transfer out 1600 pick-eyes a day. These new accessions will be a transfer out 1600 pick-eyes a day. These new accessions will be a transfer out 1600 pick-eyes a day. sions will help them materially in keeping up with their orders. They do a large export trade. W. H. Quinn & Co., No. 99 Chambers street, New York, have been appointed their fractors account. their Eastern agents.

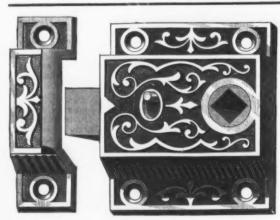
#### CALIFORNIA

The largest cable ever made on the Pacific coast has just been finished at the California Wire Works, San Francisco. It is 18,000 feet in length and weighs 26 tons. It is made of steel wire, and cost \$20,000. The cable is for the California Street Railroad. The wire works have also negotiated with the Market Street Railroad Co, for a cable 25,000 feet in length.

#### A New Pipe-Cutting Machine.

Messrs. Pancoast & Maule, of Philadelphia, Pa., have placed upon the market a now pipe cutting machine hearing the name of "Junior Eclipse." This machine, an engraving of which we submit herewith, will be found to meet the requirements of those who

# SCREEN DOOR CATCHES



PLAIN BEVEL.

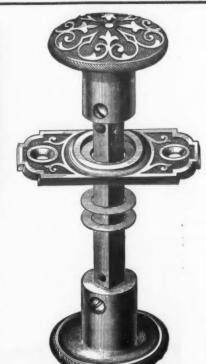
6220, Tuscan Bronzed, Tuscan Bronzed Knobs.

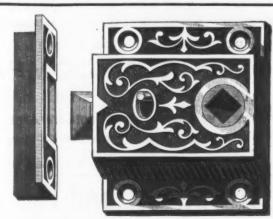
6222, Tuscan Bronzed, Bronze Metal Knobs.

6420, Berlin Bronzed, Berlin Bronzed Knobs. 6422, Berlin Bronzed, Bronze Metal

Knobs.

Packed with Screws to match.





REVERSE BEVEL, BENT STRIKE.

6240, Tuscan Bronzed, Tuscan Bronzed Knobs.

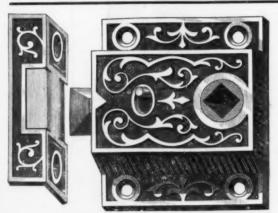
6242, Tusc n Bronzed, Bronze Me'al Knobs.

6440, Berlin Bronzed, Berlin Bronzed Knobs.

6442, Berlin B onzed, Bronze Metal Knobs.

Packed with Screws to match,





REVERSE BEVEL, RABBETED STRIKE.

Nos.
6244, Tuscan Bronzed, Tuscan Bronzed
Knobs.

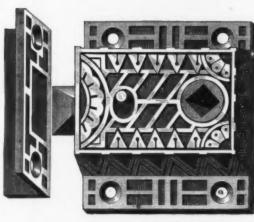
6246, Tuscan Bronzed, Bronze Metal Knobs. 6444, Berlin Bronzed, Berlin Bronzed

Knobs.

6446, Berlin Bronzed, Bronze Metal
Knobs.

Packed with Screws to match.



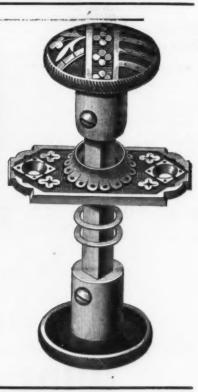


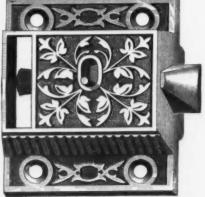
REVERSE BEVEL, BENT STRIKE.

7842, Bronze Metal, Bronze Metal Knobs.

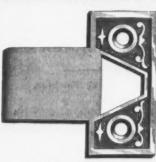
7942, Imperial Bronze, Imperial Bronze Knobs.

Packed with Bronze Metal Screws.





Reverse Bevel Latch, with Stop



Flat Strike.



0 0

Bent Strike.

Strike for Double Doors, with Nosing to hide the Bolt.



Full Size Cuts.

## WITH THUMB LATCH HANDLE.

#### Tuscan Latch.

No.	6200 6201				Bron	zed H	landl	e.
	6202				Metal	Han	dle.	
	6203 6204				-	Bronz		Handle.
	6205	For	Double	Doors,	66	6.6		44
	6206					etal E	land	le.
	6207	For	Double	Doors,	44	66	66	

#### Berlin Latch.

No.	6400 6401				Bron	zed H	andle.
	6402				Meta	l Han	dle.
	6403	Bent	44	6.6	61		f 4
	6404	Rabb	eted St	rike, Be	erlin	Bronze	ed Handle.
	6405	For :	Double	Doors,	66	66	66
	6406	Rabb	eted St	rike, B	ronze	Metal	Handle.
	6407	For :	Double	Doors,	66	44	66

All packed with Screws to match.

ALL OUR

## SCREEN DOOR CATCHES

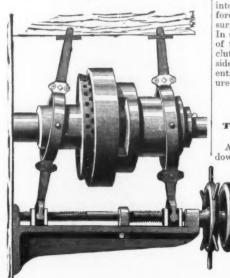
ARE NOW MADE

WITH AN IMPROVED STOP,

AND HAVE THE

PATENT TRIANGULAR FACED BOLT.

Our illustrations represent a positive friction clutch which has the curious characteristic of combining both the friction and the positive clutch. It can be connected while the machinery is running at speed without injury to the portion to be driven, and, at the same time, a positive connection is made The device is the invention of Mr. E. Wilkin son, of Paterson, N. J., and is manufactured the Cooke Locomotive and Machine Co The claw coupling, of which details are shown in Figs. 2, 3, 4 and 5, is, as the inventor remarks, as old as shafting itself, and, when once coupled, drives without a chance of slipping. The friction cone employed is familiar to many of our readers. In this case the cone has its friction surface prepared in a peculiar manner. As shown in Fig. 1, it is drilled full of shellow hallow. r, it is drilled full of shallow holes, into which plugs of millboard are firmly driven.



The Wilkinson Clutch .- Fig. 1 .- Fig. 1. Clutch and Hand Wheels.

When worn, the whole of them can be taken but and replaced by new ones in an hour. This portion of the construction is best seen In Fig. 7. By this arrangement an elastic surface having a very high coefficient of friction is obtained. By the combination of the two forms of clutch, what the inventor terms a positive friction clutch is obtained, and one that can be used when the shafting is running at any possible rate of speed, and in a smooth manner and entirely free from jar. In the perspective view, Fig. 1, the clutch is shown open. Here the two clutch levers are controlled by two screws and by two hand-wheels. One of these screws is hollow, and through it passes the stem of



Fig. 2.—Form of Openings in Friction Cone to take Driving Lugs.

the other. The screw on the left is the other. The screw on the left is controlled by the hand-wheel on the right, which has a crank handle. The one with the spokes is attached to the screw nearest it. To make a connection the outside wheel is turned to the right, which draws the cone G, Fig. 8, into the drum. This cone slides on the feather or spline A of Fig. 9. The drum d d is keyed on to the driving shaft. This makes a friction con nection between the driver and the driven, and a gradual transference of the motion



Fig. 3 .- Face of Teeth, Full Circle.

When this is attained the hand-wheel is turned to the left, forcing the lugs M in Figs. 8 and 9 into the aperatures n of the drum or disk D and against the face of the friction cone G. These are held by a slight pressure on the hand-wheel. In order to make the teeth properly engage, the friction hand-wheel is released a little, which enables the cone to gain on the drum until the long ends of the lugs enter the recesses in the face of



Fig. 4.-Face of Teeth.

the cone and abut against the driving ends of them. The tooth of the clutch is now forced home, and the work is done entirely by the teeth without the least back entirely by the teeth without the least back lash. In Fig. 8 the rim of the drum is broken away to show the lugs M passing into their corresponding apertures in the cone G. The hub is made longer to receive the pinion L. This construction is used for driving grain elevators, trains of rolls. driving grain elevators, trains of rolls, &c.

In Fig. 7 the construction is shown in section with a hand-lever shipping gear. This is intended for light, quick work, such as means of the series of cups above mentioned, it is a shift in the such that the following is a shift in the same of the great that the following is well as is possible. This is accomplished by means of the series of cups above mentioned, it ity of steel made by the Bessemer process,

The Wilkinson Positive Combination shears, punching presses, steam winches, &c. The details of the teeth and openings



Fig. 5 .- Side View of Teeth

escaping oil put into the oil-hole b is thrown into the bottom of the groove by centrifugal force, and out of the hole T, preventing the surface of the cone from being lubricated. In any case where it is desirable, on account of the nature of the work, to require the clutch to slip at a certain strain, the positive side may be withdrawn and the work done entirely with the friction clutch. The pressure can be adjusted to the greatest nicetv. ure can be adjusted to the greatest nicety

#### METALLURGICAL NOTES.

#### Treatment of Refuse at the Assay Office.

A few small streams of water trickling own through a series of cups and funnels in the cellar of the United States Assay Off ce Bulding, in th's city, perform an interesting func tion. Starting from an elevated vat con'aining two or three barrels of black dirt, the water descends thick and muddy at first into a row of cups. The heavier particles of the dirt settle in the cups, while the lighter particles overflow into funnels which empty into another series

which empty into another series of cups. This second row retains a certain portion of the dirt, and overflows into still another series of funnels, which, in their turn, supply a third row of cups with their drippings. In this way the trickling goes on until the dirt placed in the vat above has been filtered through eight or tan rows of funnels and washed through. ten rows of funnels and washed through a number of boxes or vats. This is the process by which the valuable "sweep" of the assay department is washed. It is a process that goes on steadily from day to day. The ordinary waste water of the building is utilized to keep up a constant dripping which par-



Fig. 6.-Collar.

tially separates the dross from the gold and silver, the value of which per annum is esti-mated at many thousands of dollars. At the present time, operations at the assay departpresent time, operations at the assay department are unusually active, owing to the fact that Mr. Andrew Mason, the present superintendent, is preparing to turn over his accounts as melter and refiner to his successor in that department. The clink of the trowel and the rasp of the chimney scraper have been the principal music heard inside of the melting room since the appointment. of the melting room since the appointment of the new superintendent. The furnaces have been gutted and the inside row of metal-strained bricks have been taken out and crushed into small fragments. The flues have been torn down, and the black

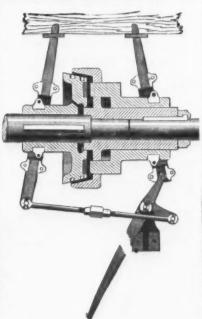


Fig. 7.—Section of Hand Lever Clutch.

ened bricks thoroughly scraped. Small pieces of wood saturated with fumes and spatterings of melted gold and silver have been burned, together with old rags, paper caps and old shoes, and the carefully pre-served ashes have been mixed with the soot gathered from the chimneys. The broken bricks and pieces of old crucibles and ladles have been thrown into one general receptacle for the "sweep." Before being subjected to the washing and amalgamating process, the

shears, punching presses, seed and seed and openings of the details of the teeth and openings to receive the lugs are shown in Figs. 3, 4 and 5. In some cases it is desirable to use the driving drum D as a pulley, in which case a rim is cast on it, as in Fig. 9, and the hubs are bushed and allowed to run loose on the shaft, being confined between the collars with sulphuric acid. The granulated metal is pressed into the shape of small cakes, which are subsequently turned over to the each series retaining a different grade of dirt. The metallic matter obtained from the sweep goes back to the furnace and is remelted in a crucible and the several metals are then separated. The gold and silver are generally extracted together, and are subsequently separated by treatment.

> Inquiry as to the value of the precious metals extracted from the washed-out sweep elicited the information that the quality of elicited the information that the quality of the dirt varied to such an extent as to make only a rough approximation possible. A large proportion of the sweep, too poor in precious metals to warrant its washing in the assay department, is put into barrels for public sale. Twenty barrels full of the soft dry dirt usually constitute one lot, and prior to the sale a few ounces are taken from each

increasing demand for steel in its unwrought and simply cast condition. Besemer steel has not yet taken the important position it is pressed into the shape of small cakes, which are subsequently turned over to the refiners, who remelt them and run them into bars.

Inquiry as to the value of the precious and so persistently has it been turned to that use, that there does sometimes appear to be a danger of this splendid material being neglected for other purposes, and its use for rails becoming its ultimate destiny. In the good old days of iron anything was thought good enough for a rail, and there is little doubt that the notorious application of Bessemer steel to this common purpose has tended to disparage it in general estimation for better

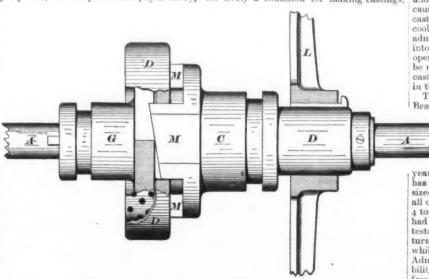


Fig. 8 .- Side View of Clutch

that will be sold in the adjustment of accounts now pending will not exceed 40 larity.

to 5 cents less than the value as indicated by the assay. Superintendent Mason says that as amenable to the quieting and soothing inthe cost to the Government of working over this coarse sweep would be greater than the ganese, or silicide of iron, as steel made by loss in actual value sustained by selling it.

Any other process, and in order to bring a ladle of steel into a proper condition for runand to speculators, who sometimes ship it ning into castings the agency of these alloys abroad. At the smelting establishments it has to be restored to. This fact was known is made to yield separately its component and recognized at the works of Henry Besseparts, such as gold, silver, copper, lead, &c. mer & Co. more than 20 years ago, although the total sales of sweep from the New York at that date the making and effering for sale Assay Office during the past year amounted of ferromanganese, silicide of manganese, to about 400 barrels, for which \$21,150 were realized. It is thought that the quantity now has, and it was difficult to obtain these alloys with any degree of certainty and regularity. It was found, however, that a very barrels.

All kinds of gold and silver coin, plate or bullion of not less than \$100 in value are received at the Assay Office from persons wishing to sell, and it is paid for after it has been melted and assayed. Some queer articles have passed over the counters of this office.

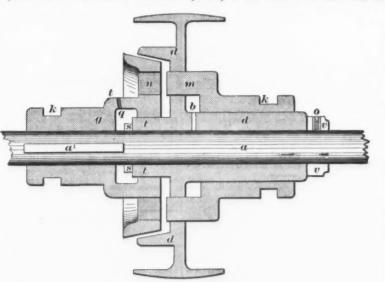


Fig. 9.—Section of Clutch

Brokers and pawnbrokers send in large quantities of broken, disfigured relics for the purpose of having them melted and run into bars. Many of the articles received would perhaps be highly prized by curiosity seekwant to attempt to sen them to private par-ties. A peculiar feature of the business is the large quantity of gold and silver coin which is constantly being converted into bullion at the request of corporations and business men. Heavy packages of bight gold ccins almost fresh from the Government Mint are brought to the office to be melted and run into bullion. March is smould, however, be exercised in administering these alloys, for the fact should not be lost sight of that in their use we are, after all, introducing impurities into the steel—impurities that become very delete. melted and run into bullion. Merchants in excess, giving a harshness and a hardness state that they can do nothing with the bulky coin, and therefore prefer the gold bars, which can be more readily converted into paper money. Silver dollars are being melted every day, and many persons into whose hands they fall in inconveniently large quantities will readily submit to a loss of about \$150 on each \$1000 in order to get rid of them.

## Bessemer Steel in Its Cast and Unwrought State.

We have just been favored with advance sheets of a number of papers read at the re-cent meeting of the British Iron and Steel Institute. Among them is one on Bessemer steel in its cast and unwrought state, by Mr. W. D. Allen, of Sheffield, from which we extract the following:

When we bear in mind the immense quan-

ers, but the owners, as a general rule, either cient time to cool down, it was found to fail to appreciate them or are in too great answer pretty well. The solidity of many want to attempt to sell them to private paraticles exhibited by Sir Henry Bessemer at beautifully soft, ductile nature so characteristic of good Bessemer steel. It therefore becomes important, when we do add these quieting agents, to use no more than is absolutely necessary for the purpose, and to see that we obtain the maximum amount of duty from a minimum quantity of the com-pounds. To insure this result the agitator should in all cases be used, as by its the small quantity of alloy is quickly and uniformly diffused throughout the ladle of steel, and its full potency obtained. writer knows of no other means whereby this very important object can be thoroughly effected. In passing, the writer cannot refrain from expressing regret that this agi-tator has not been brought more generally into use; in fact, he has not heard of a single instance of its adoption in England, although

hear that such is the case. He can assure the members that the advantages of its use daily manifest themselves in his works, and he is quite sure that much of his success in obtaining sound castings is attributable to its obtaining sound castings is attributable to its use. The use of silicon is not necessary in order to produce sound castings. At the works of Henry Bessemer & Co. the only quieting agent used is ferromanganese. A ladle of Bessemer steel judiciously alloyed with ferromanganese (the ferromanganese being thoroughly diffused throughout the mass by the aid of the agitator) will run dead and lay perfectly quiet, sinking in the molds like ordinary cast iron, and a large dead-head will always be necessary to feed dead-head will always be necessary to feed the casting. In this way are cast cranks, side-cranks, cross-heads, cylinders, rollers, spur-wheels and various other similar pieces of machinery, which, when finished bright over their whole surface, show neither blow-holes nor blemish of any kind. It is wellknown, however, that the Bessemer system, as at present generally arranged, is not adapted for making small ingots—i.e. ingots under 3 to 6 cwt. each-ard from the same causes it is not adapted for making light castings. A mass of 5 tons of steel rapidly cooling and 1 rone to set in the ladle does not admit of the delays incidental to running it into small quantities, and the crucible or the open-hearth processes, where the steel can retained in the furnace until required for casting, have advantages over the Bessemer in th's respect.

The success in making sound castings of

Bessemer steel claimed in this paper is not simply an experimental successe but is a regular and daily practice and, to give one instance as an illustration of the regularity with which it is done, the writer may mention the fact that during the last four

years, amid a multiplicity of other things, he has made 486 hydraulic cylinders of various sizes, as they have happened to be ordered, all of which have been tested up to 2, 3 and 4 tons per square inch, while he has never had the misfortune to have one fail in these tests, or to have one of all this number re-turned upon his hands through having failed while in use. And now as regards quality. Admitting the ready and perfect practica bility of casting Bessemer steel sound and free from blow-holes, there will hardly be a diversity of opinion as to the value and ex-cellence of the material in that state; it is very strong, pure and homogeneous in qual-ity, and its soft and ductile nature renders it all that can be desired. It also tools beautifully, and some turnings that have come off castings that have never received a blow from the hammer are upon the table, and they serve to give a better no-tion of its beauty as a simply cast material than all that can be said on this point. The temper or hardness of the steel may, of course, be varied by the addition of more or less spiegeleisen, but it is rarely found ne-cessary to deviate in this respect with the ordinary run of castings, for, although not hard, the continuity of the material renders it exceedingly strong and durable. The analysis of castings of ordinary quality may fairly taken at:

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suipnur.		۰	 		٠								 												.00
Pnospho	ru	ŝ																							.00

The feeling which has at all times so generally prevailed, that it was impossible to obtain this material sound and free from blow-holes—as if such were inherent to the process—has always been a blot upon the escutcheon of Bessemer steel, a blot, however, that the writer considers has always been painted in too deep a color, and which he now contends should be rubbed out altogether. This done, it will be found that there is no better material for castings than Bessemer steel.

Manufacture of Pig Iron.-The following is the complete text of the bill to encourage the manufacture of pig iron in Canada from Canadian ore: I, It shall be awful for the Governor-in-Council to thorize the the payment out of the Con-solidated Revenue Fund of Canada of a bounty of \$1.50 per ton on all iron manu factured in Canada from Canadian ore, be factured in Canada from Canadian ore, between the 1st day of July, 1883, and the 30th day of June, 1886, both days inclusive, and of a bounty of \$1 per ton on pig iron so manufactured between the 1st day of July, 1886, and the 30th day of June, 1889, both days inclusive, under such regulations may be from time to time made by Order-in-Council as to the quality of the said iron, and such other matters as it may be found expedient to provide for to prevent fraud and insure the good effect of this act. The regulations made as aforesaid under this act shall be laid before Parliament within the first 15 days of each session, with a statement of the moneys expended in payment of the said bounty, and of the parties to whom they have been paid, and the places at which the pig iron in respect of which they have been paid was manufacturd and such other particulars as may tend to show the effect of the said bounty.—Montreal

An agitation has been set on foot in France in favor of raising the import duties upon foreign iron and steel in Algiers. The French ironmasters point out that while the value of the imports into Algiers of iron and steel from foreign sources rose from about \$422,000 in 1880 to \$854,050 in 1881, those from France fell from \$45,300 to \$34,100. They contend, indeed, that the Algerian market is lost to French iron and steel manufacturers, and observethat French railways and French ships are thus deprived of a considerable amount of freight. They therefore demand the re-establishment of the former high duties on foreign iron and steel.

The ateamship Canada, of the National line, which recently arrived from London, brought among her cargo 12 pieces of ma-chinery, comprising the two original locomo-tives built by Stephenson and Watt in the early part of the present century.

#### Special Notices.

#### BOOKS RELATING TO THE LOCOMOTIVE ENGINE.

Reynolds.—Locomotive Engine Driv ing. By Michael Reynolds; 4th edition, enlarged, 29 illustrations, 258 pages, 12mo, cloth. London, 1880 .

Contains a detailed description of the locomotive, with key to its parts. The duties of engine drivers and firemen are carefully and practically explained. The characteristics of good working engines, code of signals, repairing, washing out boilers and rules and cautions for every day working are con-

Roper.—Handbook of the Locomo-tive. By Stephen Roper; 9th edition, illustrated, 324 pages, 18mo, tucks, gilt edges; 1881. . \$2.50

This volume is one to which the locomotive mechanic can turn for information regarding almost every branch of his trade. There are chapters on heat, combustion, water, air, gas and steam. The construction, care and management of boilers and engines are described in detail; also tables of strength of materials, and practical hints for the guidance of the engineer.

Smith.—The Locomotive Engineer's "Torch." By F. C. Smith; 59

This little book discusses points of interest to the locomotive fireman and engineer Practical information is given concerning the care and management of the locomotive engine, with remarks upon the prevention of accidents.

Sent postpaid, on receipt of price, by

#### DAVID WILLIAMS,

Publisher and Bookseller, 83 Reade St., NEW YORK.

#### or Sale.

### VALUABLE ROLLING MILL.

The property is now known as the Portsmouth Iron and Steel Co., but formerly as the Gaylord Rolling Mil Co., situated in Portsmouth, Ohio.

This property is well and favorably known over many States, and the superior quality of its product has always made it a favorite with both dealer and worker.

and worker.

The mill is now being operated under a lease that The mill is now being operated under a lease that expires January 1, 188, and will not be renewed. The present lessees have done, and are still doing, a successful business. having a large and increasing retail trade. Satisfactory terms can be made with the lessees for possession before the expiration of the lease.

The mill is located in the business center of the city, and has a frontage on the Ohio River of nearly 1000 feet, and is in extra good repair.

The property consists in part of eight (8) heating, one (1) scrap and seventeen (17) budding furnaces, plate, sheet, bar, guide and muck trains of rolls; in fact, everything that is necessary for the manufacture of all grades and sizes of both iron and steel.

rolls; in fact, everything the state of both iron manufacture of all grades and sizes of both iron and steel.

The mill has a capacity of eighty tons of finished iron and steel per day. In connection therewith is a twelve (12) ton Siemens open hearth steel furnace; also machines for making spikes and rivets. A store has always been connected with the mill, and has been very profitable.

Portsmouth is in every way desirable as a manufacturing point. All grades of pig iron can readily be secured at the lowest possible prices, as there are about forty pig-iron furnaces located and in operation within a radius of fifty miles. It is very seldom that such an opportunity offers to purchase a property so valuable in itself, so favorably located, and having a business so well established by years of sucressful operation.

The property will be efferted for public sale on the premises on the 13th day of June, 183, at one o'clock p. m. Further information can be obtained from JNO, G. PEEBLES, Trustee, Portsmouth, Ohio.

OFFICE OF THE COMPTROLLER, CITY OF ALLEGHENY, PA., May 98, 1883.

#### NOTICE TO BUILDERS OF WATER WORKS PUMPING MACHINERY.

Scaled proposals and specifications will be received at this office until 3 p. m. Monday, June 25, 183, for the construction and erection of three (3) Four Million or two (2) Six Million Pumping Engines, to be located on Water Works property, River Avenue, Eighth Ward, Allegheny, Pa.

The specifications will include all necessary excavating and masonry for foundations for Pump Well, also foundations for Engines and Engine House. (The erection of Pump House to be done by the city.)

The Pumping Engines to be vertical, with outside necessary

by the city.)
The Pumping Engines to be vertical, with outside packed plunger pumps, and to be of a combined capacity of twelve million gaitons, pumped against a head of 20 feet in 24 hours, with a piston speed not exceeding 120 feet per minute.
The guaranteed duty must be given on the evaporation of the present bollers now in use at works.

works.

The contractor must furnish specifications and detail drawings of Engines, also plan of Pump Well and foundations for Engines.

The whole to be erected and completed in eight months from signing of contract, in accordance with such plans as may be selected by the Superfusendent of Water Works and approved by the Water Committee and Councils of the City of Allachen, Pa.

with many the committee and Councils of the City Water Committee and Councils of the City Allegheny, Pa.

No proposal will be considered unless in accordance with the above and accompanied by a bond equal in amount to the bid.

All information in regard to the above work will be furnished by Edward Armstrong, Superintendent of Water Works, City Hall, Allegheny, Pa.

The Committee on Water reserve the right to reject any or all bids. The Committee on Water The Committee on Water accept or reject any or all bids.

JAMES BROWN,

Comptroller.

### For Sale.

An old-established Machinery Business, situated

For full particulars, address JOS. J. LIPPINCOTT & CO.,

131 So. Fourth Street.

## WANTED.

An active man to travel New York State and near-by trade with a few Hardware Specialties. State salary rapected and experience had. Address

A RABE CHANCE—For Sals—Patent No. 283,174.
A granted Feb. 11th, 180, for an improvement to Coll beer and chi sperings—Also, Patterns for the manufacture of the sperings—Also, Patterns for the manufacture of the spering Hinge. Calls improvement can be applied to Spring Hinge. Calls improvement can be speling goods. Will furnish first-class references reling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end up on general work or calling goods. Will furnish first-class references will guarantee to keep my end of the form of the form

#### Special Notices.

List of Second-hand Machinery: ron Planer, to plane 2: ft. long, c2 in. x 5: in. square, t is powerfully geared, heavy and in good order. laner, to plane 1; ft. long, c1 in. wide. Very heavy nd good tool. Planer, to plane 15 ft. long, 51 in. wide. Very heavy and good tool.

Iron Planer. to plane 12 ft. long, 36 in. x 37 in. In fair condition.

12 ft. bed 30 in. x 30 in., Planer. New York Steam Engine Co. 4 make.

Pit Latte, face plate 6 ft. diam., with internal wheel full diam., external wheel 32 in. diam., quadruple geared, will turn 10 ft. diam. and 22 in. face in pit, swing 60 in. over ways, 8 in. over carriage, 21 ft. 6 in. between centers. All complete.

Engine Lathe, will take 14 it. between centers, and swing 53 in. over ways, as hollow spindle, and is adapted for both turning and boring, with counterlers, awings 48 in. over sheers, and 22 in. over carriage. It has internal gear and cross feed, with countershaft. All complete.

1 Axie Lathe, Fitchburgh Macb. Co. make. Very good. Slotting Machine, 12 in. stroke. Very good ma-hine.

1 Combined Power Punch and Shears, to punch 55 and 36, and sheer 56 in from.

12 in. Shaping. Machine, with traveling head, two tables. Lowell Machine Shop make. Complete.

3 heavy Upright Drills, to drill to center of 56 and 40 in. 3 countershaft. All crills up to 56 in. Table moves up and down by foot. Without countershaft; furnished ff required. Very good order.

1 Garvin 3 Spindle Drill, drills up to 56 in. Table moves up and down by foot. Without countershaft; furnished ff required. Very good order.

1 Garvin 3 Spindle Drill, drills up to 56 in. Table moves up and down by foot. Without countershaft; furnished ff required. Very good order.

1 Garvin 3 Spindle Drill, drills up to 56 in. Table moves up and down by foot. Without countershaft; furnished ff required. Very good order.

1 Face Milling Machines. In very good condition. All complete.

1 Face Milling Machines. In very good condition. Size of hole through spindle 1; in. Size of the 1 crills and 1 in. and mills of 1 condition. Size of hole through spindle 1; in. on Size of the power presses, in good condition, being nearly new, No. 2.

2 Small Foot Presses adapted for button maxing or any kind of light work. With sell t and good tool.

Iron Planer. to plane 12 ft. long, 36 in. x 37 in. In fair condition.

12 ft. bed 30 in. x 30 in., Planer. New York Steam

pages, 16mo, leather; 1880. . \$1

The Geo. Place Machinery Company,
No. 121 Chambers and 103 Reade Sta., New York.

#### For Sale.

Stock, Machinery and good-will of the Cones loga Lock Works Call on or address

> EZRA F. LANDIS, Lancaster, Pa.

## IRON AND METAL Exchange Memberships

Bought and Sold by WM WILLIS MERRILL, 4 Stone Street, Room 69.

EXCHANGE MEMBERSHIPS.

#### Steam Yacht.

FOR SALE FOR WANT OF USE. 33 ft. long, 7 ft. beam, 4 ft depth of hold, Custom House Register, Engine 6 ft. x 6 ft., Boiler about H. P., Pump and Heater, and Injector.
 A. G. BROOKS & WINEBRENER 261 N. Third St., Philadelphia

FOR SALE.—A well-established business is stores. Tin and Hardware; also complete set of Tinners' Tools. Will sell with or withoutools, and will reduce stock to suit buyer.

Address

A. F. WRIGHT,

2353 Broadway, Cleveland, Ohio.

## Wanted.

A Salesman for our Iron Department in San Francisco. A man thoroughly conversant with the iron business in all its branches, and also of steel, pipe tubes and heavy hardware. Apply by

letter to DUNHAM, CARRIGAN & CO., New York, Post Office Box 2664, giving particulars of age, experience and salary expected.

DESIRING to engage in the exclusive jobbing trade in this city, I offer my retail stock for oest in the city. Purchaser can continue in present store.

A. C. FAUST,
Atchison, Kan.

#### Wanted.

A Traveling Salesman for the South, accustomed to handling the Jobbing Trade in Cutlery.

Office of The Iron Age, 83 Reade St., New York.

## Attention, Manufacturers.

One of the finest Water-rowers in the United States for sale, in Chester County, South Carolina. Four sites of enormous capacity. First site has a fall of 2121-too feet; second, to feet; third, 35 feet 6 inches; fourth, of feet. Six locks of finest construction, with the office of the feet 7 likes, for acres of adjoining land, with quantities of finest granite. One half taken in stock. Exempt from taxation for ten years. Flat forwarded on application.

S. A. BOYLSTON.

## TO ENGLISH AND CANADIAN MANUFACTURERS.

Wanted.—To arrange with some party to manufacture on royalty, or to buy outright. English Patent No. 4929, for Friction Clutch, also Canadian Patent No. 16.595.

These patents have been thoroughly proved in America, and are recognized as the standard. We are now doing a profitable business of \$50,000 per annum. Address,

D. FRISBIE & CO,
481 N. 5th st., Phila., Pa.

A GETLEMAN with 13 years' practical experience as Manager of Charcoal Furnaces desires a similar position for either Charcoal et Coke service. Has had considerable experience smelting foreign ores. First-class references furnished.

Address

Office of The Iron Age. 83 Reade St., New York

WANTED.—To make arrangements with one or two good traveling men to sell a new Hog Ringer and Rings on commission, who are already on the road. Good commissions paid. Address

H. C. HART.

Box 55, Unionville, Ct.

DOSITION WANTED.—By a gentleman with 15 years' experience in the Hardware Business. Compotent to take entire charge of business. A good salesman, and posted in buying.

Address Office of The Iron Age, 83 Reade St., New York.

Office of The Iron Age, 83 Newser St., New Adrager.

W ANTED.—A permanent position as Manager,
Superintendent or Designer and Draftsman by an energetic man who knows his business
and scientifically educated, with long, practical
experience in originating all kinds of new machinery, both light and heavy, and boilers, estimating
their cost and price, and superintending their construction, and the management of help.

Address

So East Eighth St., Oswego, N. Y.

#### Special Notices.

#### FIRST-CLASS PAYING BUSINESS New and Second Hand Machinery. For Sale.

Parties having built up and thoroughly established an extensive and fine paying business, will sell the same, including several fine machinery soecialities in iron and wood, and a jobbing business of every class of Gearing Shafting, &c., and Foundry and Woodwork. Specialities have but little comnetition and are easily managed. The jobbing business includes a very fine collection of patterns in constant use, and controlling a very large jobbing trade. Also Machinery, Tools, Stock, &c., and good will.

Above business is constantly growing, and has every year cleared a very large smount of money. is centrally located and upon a large and never-failing water power, with canal through premises and excellent railroad facilities. The reason for owners offering same is because the business has grown too large for present buildings and facilities and is contantly growing, and they desire to remove one specialty, for which they have lately secured letters patent and requiring special buildings and machinery, to the center of its market in the West, which will relieve sufficiently the present facilities now overcrowded. Or should any parties desire, we will sell the specialty and retain the other business.

The straightforwardness of above facts can be readily ascertained.

Any young man or old business men having money will find eitherbusiness a very pleasant and profitable one. To save annoyance or trouble, we will answer inquiries only from parties with commercial standing or who are vouched for by bankers or other responsible parties. Would prefer parties with means, interested and looking for an established, paying business, to call personally upon us with proper letters and introductions.

E. W. ROSS & CO.,
Fulton, N.Y.

SPECIAL NOTICE. IN PRINT AND READY FOR DISTRIBUTION IN 30 DAYS.

A POCKET MANUAL FOR ENGINEERS EDITED BY JOHN W. HILL, Mechanical Engineer, Member American Society of Civil Engineers; Member American Association R. R. M. M. EDITION TEN THOUSAND.

EDITION TEN THOUSAND.

Of which, first 2coc copies will be furnished, postage prepaid, at one dollar (81.00) each; subsequent copies will be furnished (postage prepaid) at one dollar and a half (81.50) each. A pocket manual of useful information for mechanical engineers, steam users and mechanics, containing 224 pages (set in nonpariel type) of carefully selected data, formulæ and experimental investigations from the latest and most approved sources. Printed from electrotype plates, on white No. 1 book paper, in stiff morzoco covers with cardinal edges. Size of page 45 x 6% inches. From press of Robert Clarko & Co., Cinclinati, O., Published by William A. Harkis, Builder of Harris-Copilsa Steam Englines, Providence, R. I., to whom all subscriptions for copies should be sent.

#### Wanted.

Light Machinery of all Kinds to Build.

Also Experimental, Jobbing and Repair Work.

Would also contract for rolling from 100 to 500 tons special shapes or sizes of iron.

Correspondence solicited. GLOBE NAIL CO.,

Boston, Mass.

## GREENFIELD TOOL CO.,

GREENFIELD, MASS.

The plant, stock and supplies of this company which has been long and favorably known for its nanufactures of Planes and Table Cutlery,

#### WILL BE SOLD

at auction on the 12th day of June, 1883, at two o'clock p. m., on the premises, together with the additional real estate of the company. Information as to the sale will be furnished on application to

GORHAM D. WILLIAMS, Assignee.

#### Wanted.

To Sell or Let, a first-class Foundry, situated in the village of Green Island. N. Y., on the opposite side of Hudson River from Troy; within easy reach of Hudson River and Erie and Champlain Canals. Goods can be shipped as late as 6 p. m. and be in New York early next mornise. To manufacturers of Hardware specialties it offers exceptionally fine advantages. Has a good engine and all necessary machinery in the buildness.

ngine and an use solicited. Address
Correspondence solicited. Address
Troy, N. Y.

#### Pig Iron. '

Wanted, 50 to 100 tons of Nos. 1 and 2 Pig Iron in large or small lots, in exchange for machi tools or other machinery.

B. GRAVES LOUDEN, S. e. cor. 22d st. and Washington ave.,

CORRESPONDENCE IS SOLICITED with parties having

#### MACHINERY TO BUILD, Heavy work preferred.

THE HARTFORD ENGINEERING CO., Hartford, Conn.

### E. BISSELL & CO.. Wholesale Hardware Auctioneers,

83 Chambers and 65 Reade Sts., N. Y. Sales held weekly for the trade. Consignments

TO HARDWARE MANUFACTURERS AND JOBBERS.

Wanted to Exchange, by a person well acquainted with the Hardware Trade, 800 a res No. 1 White O Timber Land, situated in Missouri, for a gener assortment of Hardware. The Hardware to be ruling rates to jobbers, as land will be put in an extremely low valuation, and is a bargain as investment.

W. R. S.

Office of The Iron Age, 83 Reade st., New York.

#### Special Notices.

New.

Shaping Machine, 12-in. stroke, 18-in. traverse New. New.

Shaping Machines, 7-in. Stroke. 2d hand.

Index Milling Machine. 2d hand.

Back-geared Milling Machine. New.

Milling Machine, with Arm. New.

Hand Milling Machine. New.

Automatic Milling Machine. New.

24-inch Upright Drills, Bk. Gr. and Self Feed.

New.

120-inch Upright Drill, Wheel Feed. New.

120-inch Lever "Lever"

Sensitive Drill New.

Sensitive Drill. New. Second-hand. 4-Spindle Drill Press. New.

1 Single Spindle Light Drill, Table Feed. New.
1 Single Spindle Profiler. New.
1 Two
1 Light. New.
2 Screw Machine. New.
2 Tapping Machines.
2 Tapping Machines.
2 Bolt Cutter, 1/4 to 2/4 in. Nearly new.
2 1 3ft. Bending Rolls. 2d hand.
3 to in. Car Wheel Borer.
3 Power Presses. New.
4 Foot Press. New.
5 Foot Press. New.
5 Screw Fress. New.
1 Drop Press. New.
1 1/4 x 12 in. Stationary Engine. New.
Wood-Working Machinery.

Wood-Working Machinery.

Wood-Working Machinery.

Double Saw Bench. New.

Variety Turning Lathe. New.

124-in. Surface Rotary Bed. New.
126-in. Surface Rotary Bed. New.
126-in. Surface Rotary Bed. New.
126-in. Sondone. New.
126-in. Molder, sides. 2d hand.
126-in. Molder, sides.

J. M. BADGER & CO., 49 DEY STREET, New York (ity.

## For Sale.

## "ACME" BOLT CUTTERS

Single Bolt Cutters, cutting from 1/4 in. to 1 in. Single Bolt Cutters, cutting from \( \frac{1}{2} \) in. to 1 \( \frac{1}{2} \) in. \( \frac{1}{2} \) Single Bolt Cutters, cutting from \( \frac{1}{2} \) in. to 1 \( \frac{1}{2} \) in. \( \frac{1}{2} \) Single Bolt Cutters, cutting from \( \frac{1}{2} \) in. to 2 \( \frac{1}{2} \) in. Single Bolt Cutters, cutting from \( \frac{1}{2} \) in to 2 \( \frac{1}{2} \) in. Single Bolt Cutter, cutting from 1 in. to 3 \( \frac{1}{2} \) in. Double Bolt Cutters, cutting from 1 \( \frac{1}{2} \) in to 1 \( \frac{1}{2} \) in.

With or without Automatic Motion.

## NUT TAPPERS, BOLT POINTERS, &c.

Specialist in All Kinds of BOLT and NUT MACHINERY.

#### NOVELTY IRON WORKS, CLEVELAND, OHIO.

PROPOSALS FOR TICKET PUNCHES.

POST OFFICE DEPARTMENT, WASHINGTON, D. C., May 1, 1883. (
SEALED PROPOSALS will be received at this Department until the second day of June, 1883, for furnishing 6,500 Ticket Punches, either stationary or in the form of pilers, to be delivered at this Department on or before the tenth day of August, 1883. The punches are to supply a new want of the service, being required for use in the issue of postal notes. Bidders will submit with their proposals samples of the punches offered to be furnished by them.

All proposals are to be made in accordance with

posals samples of the punches offered to be furnished by them.

All proposals are to be made in accordance with the printed forms and specifications, which will be furnished on application, by letter, to the "Superinten-fent of the Money-Order System. Post Office Department, Washington, D. C.," to whom bidders should address their sealed proposals, marked on the envelope, "Proposals for Punches."

A decision on the bids will be made on or before the sixth day of Juns. 1853, the right being reserved to reject any or all of them.

W. Q. GRESHAW,
Postmaster General.

#### CORNELL UNIVERSITY. COURSES IN

Mechanical Engineering, Electrical Engineering, Civil Engineering and Architecture.

ENTRANCE EXAMINATIONS BEGIN AT 9 A. M., JUNE 18 and SEPT. 18, 1883.

University Register, containing full statements regarding requirements for admission, courses of study, degrees, honors, expenses, free scholarships, etc., and for special information, apply to THE PRES-IDENT OF CORVELL UNIVERSITY TIMES, N. Y.

#### Special Notices.

New & Second-Hand Machinery.

H. PRENTISS & CO., 42 Dey St., N.Y

### For Sale.

Established 1873. Gardner Bros "Standard Savage" Fire Brick Works, situated at Ellerslie Station, Md., on Baltimore and Ohio R. R. Also on Bedford Branch of P. R. R. Has convenient shipping arrangements on both roads. Works consist of two independent piants of machinery, so constructed and arranged that they can be run separately or together. One of the buildings entirely new, erected last year. Capacity of works, over 14,000 bricks her day. Mount Savage clay in abundance, mined on royalty, and delivered direct into works by gravity. Inclined plane and tram road, large portion of which was laid with new Tee rail last year. New artesian well, capacity over 35 barrels per hour. Also mountain stream, delivering water by gravity into tanks at works. Seven acres of land, with nine good tene ments. Everything in first-class order for manufacturing and shipping brick direct from kilns into cars. Good and growing trade established. Brick unquestionably as good as the best made of Mount Savage clay. Statements of business done will be shown to responsible parties desirous of purchasing. Our good will and influence to go with sale. Any further information desired will be cheerfully given by

#### For Sale.

Established in 1864. Gardner Bros. Gas Retort and Fire Brick Works, situated at Lockport Station, on P. R. R., 6c miles from Pittsburgh, Pa. The works consist of complete plant for manufacturing Clay Gas Retorts. Settings, Blocks, Tile and Fire Brick. Capacity, about 100 retorts, with necessary settings, and 100 retorts, with necessary settings, and 100 retorts within short distance of works and hauled in wagons. Over three acres of land, with all necessary buildings, a number of tenements and town lots. P. R. R. has side track alongside our kilns Good trade established. Our good will and influence to ge with sale. Statement of business done will be shown to responsible parties desirous of purchasing. Any further information desired will be cheerfully given by

GARDNER BROS.

Lockport. Pa.

GARDNER BROS., Lockport, Pa.

FOR SALE.

One Cast Iron Vacuum Pan. Vacuum and water pumps and all attachments. One Granulator, with attachments. One large Mixer, with attachments. One No. 5 Vacuum Pump. Two Sug ar Packers.
Two Sug ar Packers.
Two Steam Engines.
Nine Char. Filters.
Two Steam Engines.
Nine Char. Filters.
Two Steam Presses.
The above is a portion of the Machinery formerly used at Baltimore Steam Sugar Refinery, Baltimore, Md. For information apply to GEO.
B. GRAHAM, P. O. Box 193. Baltimore, Md., or to F. E. ADAM, n. e. cor. Lombard and Concord sts., Baltimore.

#### For Sale.

The Industrial Works of Shamokin, owned and successfully carried on for a number of years by the late Wm. Brown, deceased, consisting of Foundry and Machine Shop, and a large steck of Patterns regarded as part of the property. Boiler Shop, Blacksmith Shep and Factory for the manufacture of heavy coal screens. Well located in the borough of Shamokin, Pa., with the best facilities for shipping by rail, and surrounded by a district contributing all the work that a shop of that kind can possibly turn out. Easy terms of payment are offered to suit a purchaser of limited capital For list of Tools and further particulars apply to WM. McILVAIN & SONS.

Manufacturers of Boiler Plate and Tank Iron, Reading, Pa.

## For Sale.

Heavy Planer, 39 in. x 39 in. x 13 ft., with rack ex-ensics, to plane 20 ft. Good a- new. 24 in. to 36 in. planers. 15 in. column dritts. 1. in. to 36 in. lathes. Lever Shears to cut 2 x 2. Lever Shears to trim 14 plate.

A. G. BROOKS & WINEBRENER,
261 N. 3d St., Philadelphia.

## For Sale.

Stock of General Hardware, Stoves and Tinware, and good-will of the business without bonus, Stock will inventory thirteen to fifteen thousand. Business located in a growing town of about occo inhabitants, in Northwestern Pennsylvania, and a railroad center. For further information, address "G.T."

Office of The Iron Age, 83 Reade St., New York,

#### A Gentleman

well known to the Hardware and Woodenware Jobbing trade of the Northern States, from Bos-Jobbing trade of the Northern States, from Boston to Umaha, now representing one factory, desires to add two or three others, selling the goods direct, and on a small salary, he paying expenses. Has had years of experience with this trade. Address TRAVELLER X Z. Office of The Iron Age, 83 Reade st., New York.

WANTED. A situation as Inspector of Iron, by a man who has had several years experience in the manufacturing of Iron. Reference given.

Address BOX 365. Pottstown P. O., Pa

#### Special Notices.

#### CHAIN FOR SALE.

g-16 in., 13,000 pounds.

**11.** in., 30,000 pounds.

% in., 40,000 pounds.

1/4 in., 40,000 pounds.

z in., 3000 pounds. Stud Link. 1)4 in., 95,000 pounds. Stud Link.

1% in., 46,000 pounds. Stud Link. atn., r6.000 pounds. Stud Link.

The above is all new proof chain, and will be sold low in lots to suit to close # out. The links n the large sizes are larger than Lloyd's Standard,

and will not fit American Patent Windlass.

#### C. W. & H. W. MIDDLETON,

945 Ridge Avenue,

#### PHILADELPHIA. For Sale or Lease.

A Large Two-Story Brick Factory,

A Large Iwo-Story Drick ractory, formerly Macnine Works, at Pearl River, N. Y., on railroad depot, 25 miles from New York City, Railroad faculities unexceptionable, on the line of the New Jersev and New York Railroad. The property contains 40,000 square feet floer space, with one 80 H. P. Engine and Boiler, 700 ft. s-inch line shafting and pulleys, main belts, steam heating and water pipes throughout the building. A splendid iron feundry, 70 ft. by 00 ft. with one iron smelting cupola with Mackenzie blower, brass furnace, core oven, blacksmith shop, pattern vaulta, annealing oven, etc. The property can be bought or leased on liberal terms. For further particulars, price, terms, etc., address J. E. B. & Co., 113 Liberty st., New York City, or Pearl River, Rockland Co., N. Y.

#### For Sale.

The largest stock of New and Second-hand Engines, Boilers, and general Machinery in the West, Send for Catalogue. Hoisting Outfits for Coal Mining and other purposes a specialty.

WARREN SPRINGER, 195 to 219 South Canal St., Chicago.

#### For Sale.

Second-hand

#### DROPS and LIFTERS.

BEECHER & PECK, Lock Box 222, New Haven, Conn.

#### For Sale.

New Machine Tools, &c.

AMERICAN TOOL CO., Cleveland, Ohio.

#### For Sale.

A valuable Foundry and Machine Works, located in Frederick City, Md. Buildings new, built of brick, and substantial; covered with slate; capac-ity ample to work 150 men. Located near B. & O. and Pennsylvania railroads on about two acres of ground.

Apply for chart, terms and information to
DUDLEY PAGE,
Frederick City, Md.

## For Sale.

A stock of Hardware, with a good business, in sold cheap, with or without the building. Address, A. G. THOMPSON,

STEAM PUMPS

Cedar Falis, Iowa.

#### For Sale.

A large number of Steam Pumps of all makes, and ranging in size from small tank or boiler feeds up to very heavy serrice machines. While the stock lasts good bargains are open for Miners, Water Works, Rolling Mills, Furnaces, or any one needing to move fluids by steam.

Call upon or address

JNO. A. HINCKLEY,

Purchasing Agent of the United Pipe Lines,
Oil City, Pa.

### To Brass Foundries. To Brass Manufacturers.

Our new foot press, for cutting off GATES from brass sastings by FOOT power, is now ready. Weight, 250 lbs. Frice complete, \$36, not. A boy can operate it dir. We warrant them to give the most perfect satisfaction. TREALESS FUNCE AND SHARE CO...

#### Wanted.

A Partner with \$5000 to \$10,000 in a Foundry and Machine Business, established in 1824. For par- LOTS TO SUIT. ticulars, inquire of

L. H. COLLER. Poughkeepsie, N. Y.

## Wanted.

#### Special Notices.

#### HENRY I. SNELL, 135 North Third St., Philadelphia, Pa.

has just received a fresh lot of Machine Tools, Engines, &c., which he offers at very low figures. One Screw-cutting Engine Lathe, 6 ft. bed 18 in.

Cne Screw-cutting Engine Lathe, 8 ft. bed, 18 in. swing. One Screw-cutting Engine Lathe, 19 ft. bed, 18 in.

swing

One Screw-cutting Engine Lathe, 12 ft. bed, 24 in swing.

One Iron Planer, planes 7 ft. long 33 in. wide One Power Crank Planer, 12 in. stroke. One 11 in. Shaping Machine, traveling head. One 38 in. Upright Drill. Extra heavy. New. One 300 lb. Ferris & Miles Steam Hammer.

One 25 H. P. Corliss Steam Engine. One 40 H. P. Corliss Steam Engine One 40 H. P. plain slide valve Steam Engine. One 13 H. P. vertical Steam Engine. Naylor. One 50 H. P. Marine Boiler, suitable for tug boat. One 36 in. heavy Endless Bed Surfacer. Three Cylinder Boilers, 36 in. dia. x 30 ft. long. One second-hand No. 7 Sturtevant Pressure Blower. A large lot of Steam Pumps of various kinds and sizes.

#### For Sale.

## Near Pottsville, Pa.,

ON THE MAIN LINE OF THE POTTSVILLE AND READING RAILROAD.

AND READING RAILROAD.

These mills are in good repair, and can be started in two days' time.

Rolls for T-Rails 12 to 7e lbs. per yard, and for Street Rails 12 to 7 lbs. per yard.

Guide Mill Train for Merchant Iron ¼ to 1 inch.

Rolls for Merchant Bar, round and square, up te 4½ inches.

Number of Puddling Furnaces in both milts, 37; Heating Furnaces, 9; all with boilers attached. Also Foundry, Machine Shop, Blacksmith Shops, Iron Heuse, Roll House, Carpenter and Pattern Shops, Stables, handsome Dwelling for Superintendent, 11 Tenement Houses, a Brick Office, and ample grounds for stock and cinder.

For further particulars address

Messrs. LEE & McCAMANT, Extrs., Pettsville, Pa.

THOS. F. WRIGHT, 1804 Race St., Philadelphia, Pa. HUGH W. ADAMS, 56 Pine St., New York.

#### For Sale. Bolt and Nut Machinery.

Bolt Cutters, National, capacity up to 1 in. 16 Bolt Cutters, National, capacity up to 1 in. 18 Bolt Cutters, National, capacity up to 1 in. 18 Bolt Cutters, National, capacity up to 2 in. 18 Bolt Cutters, National, capacity up to 2 in. 18 Bolt Cutters, National, capacity up to 2 in.

j Bolt Cutters, National, capacity up to 2½ in. 2 each, 3 in. and 4 in.
2 National Bolt Headers, capacity up to 1 in.
1 National Bolt Headers, 1½ in.
1 Improved Lewis Bolt Header, capacity up to 1½ in.
1 Improved Lewis Bolt Header, capacity up to 1½ in.
2 Everal Chapin Headers, light and heavy; Nut Tappers, a complete assortment; Cold Headers for Rivets, Store Bolts, &c.; Hot-pressed Nut Machines, 1 sizes; Washer Machinery, and every variety of tool used in tolt and Nut Shops. The only specialists in line in the United States.
Address

## variety of tool used only specialists in line in the United only specialists in line in the United Address THE NATIONAL MACHINERY CO., Tiffin, O. Catalogues sent free to any address. ROLLING MILL PROPERTY

For Sale at Low Figures. The Rolling Mill at Poughkeepsie, N. Y., with the entire plant and machinery, about 15 acres of land, large and valuable water front, with substantial wharf. One of the best locations in the country for manufacturing.

Apply to W. S. JOHNSTON, Trustee, Poughkeepsie, N. Y.

#### For Sale.

No. 6 Startevant Blower and Countershaft. 6 Blake Steam Pumps. Good as new. Nos. 3, 4 and 5 Phila. Hydraulic Works Steam

NOS. 3, 4 ams 3 Pumps.
Belt Pump for Hydraulic Press.
Heald & Sisco Centrifugal Pump, 4-in. discharge.
Small Steam Blowing Engine.
A. G. BROOKS & WINEBRENER,
561 N 3d St., Philadelphia.

With Solid Punched or Adze Eyes. T. & CO., Box 25,

Office of The Iron Age, \$3 Reade st., New York.

#### For Sale.

To a competent Mechanical Engineer, with experience in managing Machine Shops, an interest in the Omaha Foundry & Machine Co., at Omaha, Neb. The largest and best equipped shops in Nebraska, with a splendid trade and no local competition. Address

T. W. T. RICHARDS,
Omaha, Neb.

#### FOR SALE.

No. 6 Baker Blower, Nos. 4 and 6 Sturtevant Blower, No. 6 McKinzle Blower, and Alden Blower, Outlet 7 x 6½; Cupola, 48 inches; Crane, 15 tons; 3,4,6 and 10 H. P. Baxter Engines; 9 x 12 Horozontal (new) do.; Pianer, 20 x 16 x 4; Buzz, do.; Emery Grinder, 1½ mandrel, &c. C. B. BIGELOW, 13 New Church St., New York City, Agent for Lehigh Valley Emery Wheel Co.'s Wheels and Machinery.

#### FOR SALE OR RENT.

To Manufacturers: I have one of the finest manufactures in the West, with a capacity of 40,000 square feet of floor space, equipped with 140,000 square feet of floor space, equipped with 140,000 shafting 40,000 square feet of floor power engine, two bollers, elevators, benches, shafting 40,000 for consistency from the contract of the floor o

#### For Sale.

CROP ENDS OF 194 x No. 16 AND 11/4 x No. 1 HOOPS, FROM TWO TO FIVE FEET LONG, IN

A. R. WHITNEY & CO.,

58 Hudson st., New York.

## For Sale.

An old-established firm in Thames street, manufacturing specially one description of Ornamental Castings, but having warehouse too large for own use, are desirous to meet with manufacturers of other goods requiring them stocked in London and sold on commission. Apply to 203/30, care of Ironmonger Newspaper, 42 Cannon street, London, England.

A well established Hardware Store and Trink Business in Central Pennsylvania. Stock of and in good shape. Will invoice about \$5 (cood reasons for selling. None need answer those meaning business.

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A well established Hardware Store and Trink Business in Central Pennsylvania. Stock of and in good shape. Will invoice about \$5 (cood reasons for selling. None need answer those meaning business. A well established Hardware Store and Tinware Business in Central Pennsylvania. Stock clean and in good shape. Will invoice about \$5000.

219 N. Third street, Philadelphia, Pa.

# Trade Report.

#### BRITISH IRON AND METAL MARKETS.

[Special Cable Dispatch to The Iron Age.]

LONDON, TUESDAY, May 29, 1883. Scotch Pig.-The market is weaker.

Second 1	18.	THO WE	M WOR	4.0	HORNEL
Makers' pric	es are	quoted	as fol	llows	1 :
Coltness, alo	ngside,	Glasgo	w		63
Langloan,	44	9.5			63
Gartsherrie,	6.6	8.8			59
Summerlee,	8.0	8.0			бо,
Carnbroe.	0.0	84			54
Glengarnock,	6.6	Ardrossa			
Eglinton.	44	80			48
Dalmellington	. 00	45			49
Shotts,	96	at Leit			63/
Lighterage	from A				
ton.					
Claveland	1 Die	The		A 2m	
Cleveland	-				
We quote as	follow	s, f.o.b.	ship	ping	ports:
Middlesboro' 2	So. z Fe	oundry			43/
	VO. 2				42/
	NO. 3				39/ @ 40/
		orge			
-					

7 in. x 7 in., £4. 10/ @ £5, f.o.b. shipping that market.

Bessemer Pig-Continues irregular. W.

C. Hematites are quoted 50/ @ 51/ for

Manufactured Iron.-The market continues irregular. We quote at works, nomi-

nally:				£	8.	d		Æ	ø.	-
Staff. Ord.	Marked	Ban		7	10	0	0			
4.5	Medium	6.8		6	10	0	0	7	0	-
64	Common	1 44		6	0	0	0	6	TO	
Hoops, so Y	V. G. and	over								
" Cor	mmon Bes	t		9	5	0	0	7	25	-
" Me	dium			6	EO	0	0	6	15	-
	mmon					0	0	6	10	-
Sheets, so 1	W. G. and	und	er.				_			
	linary Bes			0	80	0	0	10	10	-
	mmon							8	0	6
Welsh Barr					IO		0	5	13	(

Steel Rails. - The market continues without improvement, and prices are weaker. We quote Ordinary Sections, £4. 12/6 @ £4. 15/, f.o.b shipping ports.

Iron Rails .- Dull and nominal. Welsh, 30 B and upward, are quoted, nominally, £4. 15/@ £5. 10/, f.o.b. shipping ports.

Old Rails.-The market is irregular. We quote Old D. H.'s, c.i.f. New York, £3. 12/6 @ £3. 15/.

Scrap - Continues irregular. We quote Wrought, c.i.f. New York, £3. 2/6 Heavy @£3. 5/. Bessemer Crop Ends are quoted 60/ @ 62/, f.o.b. shipping ports, for run of the mill.

Copper.-The tone of the market continues to improve, and prices are firmer. We quote Best Selected, £68. 10/@ £69, and Chili Bars, £63. 10/@ £63. 15/.

Tin-Is weaker. We quote Straits Ingot,

the market, and prices are firmer. quote :

Tin Plates, to X 14, 1st qual. Charcoal .. 19/6 @ 20/6 \*\* sd \*\* ...18/6 @ 19/ \*\* 18t \*\* Coke....17/6 @ 18/ \*\* sd \*\* ....16/ @ 16/

Spelter-Is without change to note. Or dinary is quoted £14. 15/@ £15 at shipping ports.

Lead-Continues weak and unchanged Common English Pig is quoted £13. 2/6 @ £13. 7/6.

firmer.

## FINANCIAL.

Office of THE IRON AGE, TUESDAY EVENING, May 29, 1883.

In taking a retrospect of the week the general markets must be reported tame and spiritless. Aside from the common complaint on this score, the occurrence of two holidays within a single week, viz., the Bridge festivities and Decoration Day, has the effect to restrict the volume of commercial transactions. In addition, foreign trade is languid, imports being lessened in anticipation of the new tariff, to take effect July r, and exports are on a much reduced scale, excepting wheat and cotton, which are moving out in liberal proportions. The chief interest is centered in the speculative commodities, which just now are wheat and petroleum. On the Produce Exchange yesterday the excitement was more noticeable, due to a sudden advance in the price of cereals. the unfavorable tenor of the latest crop advices affording a plausible pretext. Sales bought sparingly. In dry goods, the demands of the week have been indifferent, buyers seeming disposed to feel their way into the future by cautious advances rather than make the provision usual at this season for possible contingencies. With the opening of June a more active market will be expected agreeably to the experience of last year. Though the number of business failures is diminishing, they are a source of uneasiness and distrust. The reported troubles of the Allentown (Pa.) rolling mill and of the Taunton Copper Co. excited more or less remark on the several exchanges, and the outcome of the threatened strikes in Pitts-

@ 3 % on call. We quote 60 to 90 days' indorsed bills receivable, 5 @ 51/2 %; four months' acceptances, 51/2 @ 6 %. Banks and other financial institutions have more difficulty in profitably employing their surplus funds. Currency from the West and South is flowing freely toward this center, and exchanges at the East are more favorable than for some time past.

There was a large decline in the volume of our foreign trade in April, as compared with several preceding months. The official report of the Bureau of Statistics shows the total exports for April to have been \$60, 860,588, against \$77,657,160 in March, and the total imports to have been \$57,029,723 in April, against \$60,780,603 in March. The net result of the April business was a trade balance of \$3,830,865 in favor of the United States, as compared with a balance of \$16,876,557 in favor of the United States in March. The net result of our total foreign trade in commodities in the seven months ending April 30 has been a trade balance of \$124,031,904 in our favor. In part payment of this the net imports of specie in the seven months have been \$7,981,054, leaving \$116,050,850 to be otherwise accounted for, but the recent sales of Palo Alto Rolling Mills, mixed lots Nos. 1, 2 and 3, equal parts, done much to assist in the liquidation, and f.o.b. shipping ports. American securities on London account have other large amounts have been negotiated Blooms.—Nominal. We quote Bessemer abroad in the shape of loans presented in

Sterling Exchange is firm. The posted rates are now advanced to \$4.85 for 60 days, and \$4.89 for sight. The sale of American securities on London account lately noticed is now in a measure suspended, and it is believed in Wall street that at present there is more buying than selling. While this continues the tendency of exchange will be to advance.

On the Stock Exchange during the week under review the market has been irregular, but spiritless and generally weak. On Thursday there appeared to be an improved feeling, but the market fell off under a report that the Allentown rolling mills would be closed and the price of iron again reduced. The announcement of a better financial situation in England caused a slight reaction. On Friday and Saturday the general list was moved upward, partly in consequence of a favorable bank statement, but more on account of the removal of bear pressure. New Jersey Central was affected by news of a temporary injunction to prevent a lease to Reading. On Monday prices fell off, on the announcement of a rise in exchange; crop news was less favorable, and a bear attack unsettled the whole list. To-day there were reports of coming railroad troubles, a heavy loss of earnings, &c., and the net result was a fractional decline. Northwest Common was quoted 129-preferred, 147¼; Rock Island, 122½; Manitoba, 119½; Lackawanna, 123¼; Lake Tin—Is weaker. We quote Straits Ingot, Shore, 10734; Pacific Mail, 42; North Paspot, £95 @ £95. 10/, and futures, £96 @ £96. 10/.

Tin Plates.—There is a better feeling in We ville, 481/2; Kansas-Texas, 281/4; Wabash preferred, 411/4; Oregon, 821/4 bid; St. Joseph preferred, 941/2.

United States bonds to-day are steady.

Child States bonds to disj are	access,
with prices at the close as follows:	
The state of the s	Auberd
Bid.	Asked.
U. S. 5'8, 1881, continued at 31/4 1021/4	-
U. S. 416's, 1891, registered 11216	11236
U. S. 416's, 1891, coupon	11336
U. S. 4's, 1907, registered119%	11039
U. S. 4'8, 1907. coupon	11936
U. S. 3 per cents 10336	10356
U. S. Currency 6's, 1895 127	-
U. S Currency 6's, 1896128	_
U. S. Currency o's, 1897	-
U. S. Currency 6's, 1898	-
TT Q Champungar also -Q -	

to make a call for 31/2 % bonds for Septem- old patent of 1840. ber I for \$15,000,000, and that he will probably make such a call on June 1, Friday next. On the same day pension payments amounting to about \$12,000,000 commence, and will add to the supply of funds.

According to the Custom House reports, the importations of specie and bullion at this port during the week ending May 25 were \$36,525, consisting of \$3448 in gold and \$33,077 in silver, as against a total of \$84,695 for the week ending May 26 last year. The importations since the 1st of January compare as follows with the movement during the corresponding period last year:

-Since January \$4,744.195 2,944.738 Silver .... \$6,688,933

The bank return for the week shows an increase of \$3,416,775 in reserve, which now stands at \$9,177,400 above, against \$4,208,625 above at the same time last year, and were exceptionally large, but exporters \$14,722,900 above at the corresponding date The following is an analysis of the bank

totals of this week, compared with that of last week:

	Loans	8317,828,000 60,558,900	\$316,281,500 (9,820,800	Dec.	2,367,909
t	Legal tend-				
	Total re-	21.975,100	23.758,300	Inc.	1,783,300
	Berve	82,504,000	86,585,100		4.051,100
	Deposits Reserve re-	207,093.500	309,630,800	Inc.	2,537,300
9	quired	76,778,375	77,007,700	Inc.	634.325
3	Reserve	5.70.025	9.877.400	Inc.	3.416,775
3	Circulation.	16,151,100	15,974,400	Dec.	150,700
.		MINING	STOCKS.		

were as follows :

Belle Islo	30	25
Best & Bel	3.50	
B. H. & E., n	- 34	36
Bulwer	60	
Bassick	75%	836
Big Pittsburgh		80
Bradshaw	27	
California	50	
Con. Imp	8.8	16
Con. Va		1.00
Chrysolite	1.00	
Central Ariz	35	
Cherokee	3	
Dahlonega		4
Durango	6	
Dunkin		39
Decatur	6	7
Eureka Con	3.25	3.75
East. Or	25	0 1 1 1
Elko Con		25
Findly	6	16
Father de Smet		4.50
3r'n Mtn		81
Fold Stripe		9
Homestake		1534
Horn Silver	636	656
libernia	4	
Iortense	10	
ndependence	25	
ron Silver	3.05	3.10
acrosse	12	8.4
eadville, Con		60
. Pitta	75	80
J. Chief	48	59
dexican	5.00	
avajo	1.45	1.50
Standard	15	30
V. Belle Isle	536	636
Belle Isle	20	****
)r1. & Mil	19	21
tappahannock	7	
tobiason Con	8a	84
dising Sun	3	
ted Elephant		8
ierra Nevada		10
ilver Cliff	16	80
ilver King	10%	8.8
utro Tun	31	3.9
o. Hite, new	13	2.5
o. Pacific	6	8
t. L 1 & 4	2	4
t. L. 2 & 3	5	6
onora Con	64	
ierra Grando	8.05	
uion Con	9.50	19.00
nadilla		3
Iaryland Coal	13	
ipe Line cer		1.09

#### GENERAL HARDWARE.

Trade continues without any important feature that can be called new. Business is going on in the uneventful way that ordinarily characterizes this season, and no changes in prices of any importance have

taken place. There has been a good deal of activity in the Nail market during the week, and stocks have been reduced to such a point that there is, in some cases, difficulty in filling orders. The prospect of a strike in the West has brought a great many orders and inquiries from cities whose natural source of supply is the Western mills. Sellers are reluctant to accept orders for future delivery, and, indeed, are declining many for present delivery, as they feel that this course is necessary to enable them to take care of their regular customers. The price remains \$3.10, less 10 cents to the trade. While this is the price for small lots, the market is so firm that it would be very difficult to obtain any better

figure on a large order. The Yale Caster Co. are now putting up all their Casters, larger than No. 23, in lock-corner wood boxes, one set nested in a box, with slide covers, and full-size cut on label on the end of the box. This will be appreciated by the trade as a great convenience. These sizes are all handsomely japanned, and the company express the determination to gain a leading position in the market by giving the trade desirable and attractive goods. They request us to pub-

lish the following announcement:

NEW HAVEN, CODB., May 28, 1883. Referring to the recent statement by the Phænix Caster Co., we desire to say that the suits mentioned were mere farces, brought against "straw" parties at their doors, and that they virtually managed both sides of the case. Our Yale Caster, with devices essentially different from anything invented or claimed by Martin was not invented or claimed by Martin, was not under consideration, but is made under pat-Freights.—Steam from Glasgow to New York are nominally 5/; from Liverpool to New York, 3/6 @ 5/6, tending downward. Liverpool to Philadelphia, 10/@ 10/6, Red River Railroad, advanced to 43½. There was a rumor in the street to-day that the patent any of its essential devices. Both his Secretary of the Treasury has been advised Caster and the Yale are improvements on an YALE CASTER CO.

> Messrs. Faulkner & Bird, 35 Dey street, and Messrs. (i. H. Benton & Co., 82 John street, agents in New York for our Straightaway Valves. THE EDDY VALVE Co.

The Eddy Valve Co. request us to make

To the Trade: We have appointed both

ment

the following announ

WATERFORD, N. Y., May 26, 1883. The Chieftain Hay Rake Co., Canton, Ohio, quote as follows to dealers :

Rakes, Nos. 1 and 2, \$20; Retail price, \$30 Nos. 3 and 4, \$22; Payable October 1, or 1 per cent. per month discount for unexpired time. Post-Hole Diggers, \$27 per dozen, 30 days net. All f.o.b. at Canton, Ohio.

#### IRON.

American Pig.-Transactions in Iron are on quite as limited a scale as heretofore, and the majority of the trade are still looking for lower prices. During the last few days, however, a good many well-informed people have seen signs which lead them to think the bottom has been almost reached. The most important of these considerations is the extent to which the production of Pig Iron is being curtailed. It is reported that 35 furnaces have been recently put out of blast on the Reading Railroad, and it is almost certain that within two weeks there will be 12 or 15 furnaces out of blast in the Lehigh region, including the five furnaces of the Allentown Iron Co., whose collapse has been the latest topic in the trade, It is certain that this company cannot con-The closing quotations for mining stocks tinue without additional capital, which their Bid. Asked. stockholders have refused to contribute. Of 

tion. The stock is not large. We quote: being countraband of war, cannot then be Eglinton, \$21.25 from ship, \$22 from yard; being countraband of war, cannot then be shipped any more from Europe to China, Carnbroe, \$23 from yard; Glengarnock, and, as the latter takes on an average 1000 tons per month, it will be that much Lead left \$22.50 @ \$23 from ship and yard; Dalmellington, \$21.50 @ \$22 from ship; Summerlee, \$24 from ship; Coltness, \$24.50 @ 24.75 from ship; Gartsherrie, \$25 from yard; Langloan, \$24.50 from ship.

Steel Rails.-Mills are supplied with orders well into the fall. Inquiries are coming in pretty freely, in many cases for lots which the mills cannot supply. We quote \$38. We note the sale of 5000 tons of Bessemer Pig for shipment to Philadelphia or Baltimore, at seller's option, at \$21.25. This is, we believe, the lowest price at which this Iron has ever been sold, delivery considered.

Old Rails.-There is exceedingly little demand, and no feature of interest to report. We quote, as before, \$22 @ \$23 for Ts, to arrive and on the spot.

Bar Iron.—Considering the unsettled condition of the Iron market, there has been, during the past week, a fair demand for Bar Iron. The trade is from legitimate consumption among a few branches of industry only, and continues to be in such parcels and specifications as pressing necessities require. Prices are unchanged, though a firmer feeling prevails, and both Eastern and Western mills are less disposed to sell at present figures than they have been within the past month. Manufacturers in the West have been accumulating stock in a small way for a month or more, and the lockout which is to occur to-morrow, from late accounts, finds them in such condition that they will be able to supply the regular demand from stock on hand for some time. Manufacturers in the East are declining to accept orders at prices they quoted a week ago. Looking to a suspension at Pittsburgh, they anticipate an improvement in demand and price. Refined Iron is quoted from the mills at \$2 @ \$2.25, according to quality. From store, Refined Iron is quoted at \$2.30 @ \$2.40, and Common at \$2.10 @ \$2.20.

Scrap Iron.-There is no change in the Scrap Iron business. The market continues remarkably quiet, and dealers are prospecting in vain for a revival of trade. tinue to quote Selected Yard at \$25 @ \$26, ex-store at \$24.50, ex-ship at \$23.50.

#### METALS.

Copper.-Features in the Copper market are the reverse of favorable. Arrivals from the Lake region are now copious, while meeting with a slack demand, so that probameeting with a slack demand, so that probably not over 100,000 B Lake were sold during the week at 15¼¢@ 16¢, other brands simultaneously selling at 14¼¢@ 15¼¢. The fact is, there are too many outside brands competing all the time with Lake. These brands gradually not only do all the small business, but also commence to beach larger business. By obstinytary aligns.

The quantity compares with probably aligns. The quantity of the probably aligns are probably aligns. The quantity compares with probably aligns. absorblarger business. By obstinately clinging to a price so much higher, it seems to us, the Lake companies enable minor brands to build up a trade by virtue of the great difference in value. It would consequently, perhaps, be a better plan if the Lake companies met the altered situation more squarely, thus at least preventing an undue accumulation of stock of their own. The latter is all the more rapid since it is no secret that in the Naugatuck Valley manufacturers, at least the bulk of them, are far from satisfied with the volume of their current trade, and have been compelled to reduce production. London came better again yesterday—£63 Chili Bars, and £68 Best Selected. To-day we hear from there that the tone of the market continues to improve, and that prices are firmer; Best Selected, £68. 10/@ £69, and Chili Bars, £63. 10/@ £63. 15/. From the dispatches received the past few days, we presume that the war between Chili and Peru is as good as ended, Since Jan 1. .. \$155,643,854 \$128,559.993 \$144,710,561 although pacification may drag on for a little At any rate, the prospect of Chili while yet. returning to its full importance as a Copper produces is brightening. Manufactures may be quoted as under (asking prices): Botbe quoted as under (asking prices): Bottoms, 29¢ @ 30¢; Braziers, 28¢ @ 34¢; Circles, 31¢ @ 34¢; Sheathing, 26¢, and Bolt Copper, 28¢; Segment Sheets, 31¢; Fire-Box do., 28¢. These rates, we presume, may still be considerably shaded.

Tin.-London last night came £95 with Straits Tin, and we are lower, too, the quota-tion here being 211/2¢ for large lines, with very little transpiring, Lamb and Flag being worth 22¢. The Dutch Banca sale comes off worth 22°. The Dutch Banca sale comes off on the 31st inst. We receive from London to-day the ensuing cablegram: "Tin is weaker. Straits Ingot, spot, £95. @ £95. 10/, and futures, £96 @ £96. 10/." Tin Plates have been moderately active at the ensuing quotations for large lots, ordinary brands. Whox: Charcoll Bright, \$5.87 1/4 (@ \$6.37 1/4). do. Ternes, \$5.25 (@ \$5.50; Coke Tin, \$5.15 (@ \$5.30, and do. Ternes, \$5. From Liver @ \$5.30, and do. Ternes, \$5. From Liver-pool Coke Tin is wired 15/9 @ 17/, and Charcoal do., 18/6 @ 20/. From London we are coal do., 18/6 @ 20/. From London we are cabled that there is a better feeling in the market and that prices are firmer.

Lead.-Our market has become quite inactive. A lot of 670 tons Germania is still in store, and the San Francisco owners have invited an offer. It seems that they were first offered \$4.30, which was declined; then another party offered \$4.32½, and this offer being submitted to them per wire will probably be either accepted or rejected this afternoon. At any rate, the price of \$4.321/2 is the actual value of Common Domestic on the spot for large lines, while smaller lots sell at \$4.40, and this is also the figure for Refined. St. Louis, with a 30¢ freight this way, is dull at 4¢ Hard and 416¢ Corroding.

for standard brands: Foundry No. 1, \$21.50

\$22; Foundry No. 2, \$19 @ \$20; Gray
Forge, \$18 @ \$19.50.

Scotch Pig.—There is little change in the condition of this article. Shipments continue small—about equal to the moderate consumptions may be blockaded; at any rate Lead, then he can be considered and consumptions and constant of the condition of the constant of the condition of the constant of the condition of the constant of on the hands of Europeans till this obstacle is out of the way. Should all this happen, it would perhaps not precipitate a further decline in the London market, for the metal there is, we believe, as low as it can go without stopping production in Spain, but it might suffice to prevent a recovery of value. Manufactures are quoted as follows: Lead Pipe, 63\(\psi\); Sheet Lead, 7\(\psi\)\(\psi\); Tin-lined Lead Pipe, 15\(\phi\)\(\psi\)\(\psi\). and Block-tin Pipe, 45\(\phi\), less the usual discount to dealers.

Spelter and Zine.-The torpid and dragging state of affairs heretofore alluded to continues in Common Domestic Spelter, in which hardly anything has transpired during the week. We quote the same, nominally, 4%6 @ 434 ¢, and Silesian, 5%6 Furthermore, Bertha Refined, 7%6 @ 8%, and Bergenport, 9%6 . Sheet Zine is in better request at 0%6 @ 6%6 , and tolerably active thereat. From London we receive the following cable message this afternoon: "Spelter is without change to note. Ordinary, £14. 15/ @ £15, at shipping port."

Antimony—Has remained dull, with the Antimony—Has remained dull, with the Richard Refined R dragging state of affairs heretofore alluded

Antimony—Has remained dull, with the rest, at 9%¢ Hallett, and 10%¢ Cookson.

#### FOREIGN TRADE MOVEMENTS.

The following is a summary of foreign trade movements during the past week: IMPORTS. For the week ended May 25:

Since Jan. 1.. .\$177,351,380 \$209,733,388 \$185,090,511 Included in the imports were articles of

ì	merchandise valued as follow	WB;	
,		Pkges	. Value.
	Brass goods	48	\$5,750
•	Bronzes	13	3.773
	Clocks	13	1,377
	Chains and anchors	13	511
	Copper		1,475
	Cutlery	137	40,000
	Guns	54	12,115
	Hardware	6	717
	Iron, pig, tous	2,628	57.182
	Iron, sheet, tons	IIS	6,86a
ı	Iron ore, tons	197	657
H	Iron, cotton ties	8,200	1,753
	Iron, other, tons	56g	13,728
۱	Lead, pigs	816	2,995
	Machinery	85	7.984
	Metal goods	805	90,723
1	Nails	4×3	4,55X
	Needles	10	3,606
	Old metal		4.342
1	Platina	3	1,246
1	Platedware	3	70
1	Per. caps	8.3	3,655
1	Pins	2	428
1	Saddlery	36	6,377
1	Steel	43,298	88,445
1	Spelter, lbs	55.115	9 202
1	Tin, bxs	30,964	152,200
1	Tin, 6,170 slabs, 583,622 lbs		124,971
1	Wire	2,378	9 518
1	Zinc, lbs	11,136	455
1	Zinc oxide	375	3,639
1	ML - mantitu of manche	mdian.	Lateramia

The quantity of merchandise imported compares with previous dates as follows:

complete or I.			
	For the week.	21 weeks of 1883.	Same ime 1882.
Cutlery, pkgs	137	2,923	
Hardware, pkgs	6	622	
Iron, R. R. bars		6,324	70.843
Lead, pigs		3,847	16,544
Steel, pkgs			
Tin, bxs		719,198	881,976
Tin slabs, lbs		8,518,348	7,109.739
Titl misco, and	Terri Sellean	012001240	11,000,739
EXT	ORTS OF SP	BCIE.	
For the week	ended May	26:	
Total Previously reported	4		8324,604
are troubly reported			
Total since January	V z. 1883		\$6,357,011
Same time in 1881.			28,044.848
Same time in 1881.			4,695,541
Same time in 1880.			3,614,456
Same time in 1879.			8,567,990
Same time in 1878.			7,973.199
Same time in 1877.			15,260,274
Came time in 10-6			2,000,074

The purchasing prices offered by dealers
re as follows:

Naph., gls.217,520 11,964
Mach'y, pkgs. 46 3,504
Hdw., pkgs. 36 1,358
Clocks, case. 175

are as follows:			
Copper, heavy 19 D.	\$ .13	Os	.84
IIIC III C	.10%	0	II
Copper Bottoms"	.10%	0	. 9 2
Yelfow Metal	.08	0	.00
Brass, heavy	, 30	66	.1036
Brass, light	.0714	0	
Composition, heavy	.1256	00	. 13
Lead, heavy	,04	60	
Tea Lead"	.0336	a	
Zine "	.023/4	0	
Pewter, No. 1	.12	0	
Pewter, No. 2	.08	975	
Wrought Iron 1 ton.	22.50	0	
Light "	12.00	0	13.00
Stove Plate "	11.50	@:	12.00
Machinery do "	14.50	0	15.00
Grate Bars	4.50	0	
Stereotype Plates 19 D.	.0456		.05
Electrotype Plates	.0416	60	.0416
Small type"	.05	0	.05%
The prices current (prices	paid	by	loca
dealers) for Rags, &c., are as			

White, No. 1. @ 6 c. 1%c. @

#### COAL.

In the Anthracite Coal trade there is no way, is dull at 4¢ Hard and 4½¢¢ Corroding.

As for the European market, we are cabled from London this afternoon to the following effect: "Market continues weak within the past week. The Bituminous."

Of Hardware, Iron, Machinery, Metals, &c., from the Port of New York, for the week ending May 29, 1883.

Val.

Quan. Val.
Sew. ma., cs., 177 4,574 Tin plt., case. 1 92 Locomotives. 2 7,512 Pumps, pkgs. 22 1,088
Saws, cs 7 329 Wrenches, cs. 17 377 Pistols, cse 1 75 Bells, pkgs 4 135
New Brunswick.
Mf.iron, pkgs. 12 150 R.R.iron, tons 436 8,720 Tasmania.
Hdw., pkgs 141 2,781 Ag. imp., pkgs 61 1,093 Cutlery, cs 18 216 Scales, cs 2 35
Wire, bx <sup>9</sup> 30 385 Ptim., gals14,400 1,600 Wringers, cs. 4 74 Pumps, pkgs. 8 92 Nails, kegs 180 855

French West Indies. Hdw., pkgs... 16
Steel, sheets... 16
Ptlm., gals... 3000
Sew.ma., cs... 4
Cutlery, case... 1
Alexandria. 128 Pumps, pkgs. 5 187 Stockholm. Naph., gls. 214,474 13,012 Ptlm, gais. . . 15,514 1,076 Rotterdam. Ptlm., gals. 154,400 16,000

Mach'y. pkgs. 16 2,807 Hdw., pkgs... 3 56 Cubes.

Cubes. Cuba. Copenhagen. Firearms, cse 1 Mf. iron, pkgs 6 70 Aarhus. Ptlm., gals.216,372 17,400 Oporto. Ag. imp.,pkgs Clocks, cs.... Hdw., cs. . . 7 Mf. iron, case. 1 13 Lisbon. Clocks, cs .... 73 1,095 Possuoli, Hayti. Seville.

Ptm., gals..170,248 13,700 Petlm., gals.. 646 Hdw., pkgs.. 9 Mach'y, pkge. 1 Ptlm., gals. 148,000 14,000 Hamburg. Hdw., pkgs... 42 1,241 Cutlery, 0s... 3 161 Mach'y, pkgs. 1 50 Mr. metal, 0s. 11 530 Mach'y, pkgs. 13 2,082 Clocks, pkgs.. 13 1,244 Clocks, pkgs... 13 1,244 Scales, 0s... 36 148 Ptlm., gals., 2,050 3,743 Ptlm., gals. 37,050 3.743 Mach'y, pkgs. 9 553 7.550 Ptim., gals.764,666 66,572

Sandwich Islands. Pumps, case. 1 Sew. ma., cse. 1 Hdw., pkgs... 18 Nails, case.... 1 Santo Domingo. Cutlery, cs... 2 48 Mf. iron, pkge z 23 Ptlm., gais....3050 ° 290 Ag. imp.,pkgs 680 16,340 Saws, cs..... 6 346 Cartridges, cs. 8 180 Wringers, cs. 3 121 Africa. Chain & anch. 1 166
Clocks, pkge. 1 a8
Ptlm., gais. 99,560 10,205
Scales ..... 2 108
Mexico. Hull.

Ag. imp., pkgs 59 3,858 Hdw., pkgs... 24 802 Scales, bxs... 6 420 Belle, bxs... 3 37 Mach'y, pkgs. 6 7,345 Clocks, bxs... 65 4,940 Limerick. Mexico.

Mf. irou, pkgs 122
Petim., gais. 13,530
Hdw., pkgs. 142
Bells, es. ... 3
Pumps, pkgs. 13
Steel, pkgs. 10
Cutlery, cs. ... 53
Revolvers, cs. 3
Firearms, cse. 1
Carbridges, ca 3
W. rope, reel. 1
W. closets, cs. 3
Scales, cs. ... 46 Limerick. Ptlm., gals.135,816 8,316 Cork. Naph., gls.. 100,816 9,500 | W. Pope, red. | 1 | 504 |
Ag, imp.,pkgs 81 | 2,402 | Scales, cs. ... | 46 | 1,226 |
Sew. ma., cs. 731 | 23,340 | Nails, kegs. ... | 46 | 1,226 |
Hdw., pkgs. ... | 5 | 134 | Ag, imp.,pkgs 64 | 1,875 |
Spg beds, bdls 18 | 125 | Mach'y, pkgs. 69 | 2,615 |
Scales, cs. ... | 5 | 60 |
Mach'y, pkgs. 12 | 1,622 |
Iron headers. 10 | 80 |
S. butts, case. | 40 |
L4verpool. | 1 | 10 |
Kingle, pkgs. ... | 3 | 10 |
Kingle, pkgs. ... | 5 | 476 |
Clocks, pkgs. ... | 5 | 476 |
Wickel plt. cs. 8 | 3 | 436 |
Clocks, pkgs. ... | 5 | 476 |
Clocks, pkgs. ... | 5 |
Clocks, pkgs. ... | Glasgow

Revolvers, cs. Zinc. casks...

Pumps, pkgs. 11 450 Ag. imp..pkgs 608 19,818 Copper, pigs.. 500 23,200 Sew. ma., cs.. 251 1,983 Copper, easks 54 12,000 Fiume. Gauges, cs.... L pipe, cask. Guns, case... Ptlm., gals. 344,443 24,809 British West Indies. Hdw., pkgs... 57 Mf. iron, pkgs 61 Stmpdwre,cs. 23 Sew. ma., cs... 6 Nails, kegs... 74 Buckles, cs... Pumps, pkgs... Iron, pkgs... sew. ma, cs... Hdw., pkgs... Ptlm., gals... iron safes... Revolvers, cs... Ag, imp.,pkgs W. rope, coils W. cloth, case Petin., gais.35.031 Clocks, bxs... 39 Pumps, pkge. 1 Scales, case... Buckles, case. Ag. imp.,pkgs Nails, cs....

Scales, cs... Nails, kegs.

59

British Honduras. Ptlm., gals... 780 89 Nails, kegs... 10 30 Cutlery, case. 1 45 Mf. iron, pkgs 4 53 British Australia. Ptlm., gals. 24,778

Beyrout.

Quan. Val.

Ptim., gals. 276,390 25,576

Alteante.

Alteante. 4.787 9,675 Alicante.
Ptlm., gals.246,350 22,500 Porto Rico.

#### IMPORTS

Of Hardware, Iron, Steel and Metals into 7,512 1,088 May 29, 1883.

Hardware. Bedell & Co.
Ironware, ca., 6
Bloomfield J. C. & Co.
Mach'y, pkgs., 16
Boker Hermann & Co.
Hdw., cutlery and 8, 12 150 18 436 8,720 guns, pkgs., 58
Berlecker & Co.
Case, 1
Davies & Co.
Case, 1 Case, r
Degrauw, Aymar & Co.
Rods, pkgs., rz
Downing, Sheldon & Co. Downing, Sheldon & C Gun barrels, cs., s Field Alfred & Co. Mdse., cs., 11 Cutlery, cs., 7 Folsom H. & D. Arms, cs., r Graef Cutlery Co. Cutlery, cs., r Heuermann Wm. Mach'y, cs., 3 Knauth, Nachod &

Mach'y, cs, 3 Knauth, Nachod & Kuhne Mach'y, pkgs., 83 Newhall H. B. & Co. Tools, pkg<sup>--</sup>, 7 Risolto G. B. Mach'y, pkgs., 4 Mach'y, case, 1 Mach'y, case, 1 Saleta G. Anchors, 3 Chain, length, 6 Schoverling, Daly Gales, Gales,
Arms, cs., sz
Struiter, Lau & Co.
Arms, cs., 6
Vom Cleff & Co.
Mdse., cs., 15
Waefelaer & Wood

Iron hook nails, cks. Wiebusch, Hilger & Co. Hdw., cutlery and guns, pkgs., 14 Order, ler, Firearms, cs., 9 Firearms, bales, 10 Mach'y, cse, 1 Iron. Alexandre F. & Sons,

Alexandre F. & Sons,
Bars, 105
Bundles, 135
Baring Bros, & Co,
Wire rods, b.ils., 25,816
Rods, bdls., 10,990
Wire rods, colls., 25t
Bond, Parsons & Co.
Black taggers, bxs.,
150 Bruckber, Evans & Co.
Wire netting, rolls,
\$13
Drexel, Morgan & Co.
Fig. tons, 250
Elliott, Sons & Co. Elliott, Sons & Co.
Ore, Kg., 200,000
Lang W. B.
Sheet, bxs., 76
Lillienberg N.
Bars, 1632
Lee Jas. & Co.
Fig. tons, 100
Meyer G. A. & E.
Oxide, bbls., 18
Naylor & Co.
Spiegel, cks., 96
Pierson & Co.
Screw wire, in coils,
bdis., 1076
Risolto G. B.
Pig. cs., 3
Williams H. E.
Oxide, cks., 50

Williams H. E.
Oxide, cks., so
Wright Peter & Co.
Oxide, cks., s
Zucher & Leavitt
Oxide, cks., 9
Order. ler, tons, 308
Pig, tons, 308
Bars, 2573
Rail rods, bdls, 2286
Gray pig, pes., 155
Mottled pig, pes., 249
Beams, 262
Tin, slabs, 985
Wire, coils, 315

the Port of New York, for the Week ending

Order, Fish plates, 21,061 Forgings, 142 Rails, 1619 Rods, 2059 Oxide, eks., 50 Steel.

Abbott Jere & Co.
Rods, bdls., 357
Baring Bros, & Co.
Wire rods, pkgs., 1853
Brown Wm.
Bundles, 285
Cases. 4
Ladenberg, Thaimann & Co.

CO. Wire, rings, 2390
McIhanny W. H.
Rails, 1057
Meissner, Ackermann & Co.
Wire, bdils., 389
Plock & Co.
Cast tires, 248
Temple & Lockwood
Cases, 18
Wagner W. F.
Bundles, 305
Bars, 17
Cases, 49
Plates, 38
Order,

Places, 15 Order, Forgings, 43 Bars, 49 Bands, 133 Bundles, 453 Wire rods, rolls, 13,-Spiegel'sen, tons, 5co Railroad rails, 9424 Steel wire, pkgs., 491 Metals.

Allen R. & Co.
Old metal, pkgs., 4
Baring Bros. & Co.
Tin plates, bxs., 2000
Bond, Parsons & Co.
Tin plates, bxs., 1671
Bruce & Cook
Tin plates, bxs., 468
Brown, Bros. & Co.
Plumbago, bdls., 1076
Calboun, Robbins & Co.

Plumbago, bdls.,1076 Calhoun, Robbins & Go. Pins, case, 1 Cupples S. & Co. Gun caps, cs., 20 Dickerson, Van Dusen & Co.

Co.
Tin plates, bxs., 4455
Antimony, cks., 50
Giese & Glocke,
Metal, cks., 5
Hutcheson A. G.
Old copper, cask, 1
Iron Clad Mfg. Co.
Tinned sheets, os., 16
Ketchum E. & Co.
Tin plates, bxs, 643
Ladenburg, Thalmann
& Co.
Tinned iron, bands,

Tinned iron, barrels, Display to the pixes. 157
Ledoux & Riches, Ore, bags, 28
Lin, Fon & Co.
Tin, case, 1
Noel & Sons Noel & Sons
Tin, ca. 8
Phelps, Dodge & Co.
Tin plates, bxs., 9151
Bar tin, bbls., 25
Plock & Co.
Tin, alabs, 2834
White Jas. F. & Co.
Tin plates, bxs., 565
Winter & Smille

Plumbago, bbls., 349 Plumbago dust, bbls.,

Plumbago dust, bbis.,

28
Order,
Tin plates, bxs.,
22,760
Antimony, cks., 100
Tin, cs., 25
Tin, slabs, 5213
Tin, ingots, 7
Quicksilver, bottles, Plumbago, bbls., 434

PHILADELPHIA.

Office of The Iron Age, 220 South Fourth St., }
PHILADELPHIA, May 29, 1884. }
Pig Iron.—The market has shown con-

siderable excitement during the week, various influences having been at work to unsettle values. The failure of the Allentown Iron Co. to meet the interest on its bonds, and a probability of a foreclosure of mortgage, has been a prominent topic of conversation, but it cannot be said that it has had any direct influence upon prices. The furnaces are understood to be old, and, having none of the modern appliances, have not been in a position to produce Iron as cheaply as others; hence the failure to earn interest on their bonds. The fact that there are 10,000 tons of Iron on their furnace banks. however, is not reassuring to buyers, as there is a general impression that others are similarly situated, the market has been very feverish, closing weak, and on many very feverish, closing weak, and on many brands from \$1 to \$1.50 \$2 ton below the figures quoted a week ago. The disparity in prices is remarkable, however, standard brands of No. Faundary brands of No. I Foundry selling at \$18.50 @ \$19 at furnace, while choice brands are scarce at \$21.50 @ \$22 for same deliveries. This is a very unusual disproportion, and is attracting a great deal of attention. Some people argue that if these brands can be marketed at \$22 at furnace, others are too low, and that prices must react. There is this to be said, however, that the total supply of such brands as Chickies, Sheridan and Leesport in Foundry Iron:, and Glendon, Andover and Montgomery in Mill Irons, is trifling, compared with the scores of other brands known as standard. As a matter of fact, the depression in the Iron trade is not because prices are too high, but because the supply is excessive, and the greatest weak-ness is in such brands as are in the greatest excess. For this reason it is not likely that medium and standard brands will react, but it is possible that manufacturers of the brands

tity, even at such figures as \$18.50 @ \$19 for No. 1, and \$17 @ \$17.50 for No. 2. Mill Irons are comparatively steady, and, as supplies are not much larger than usual, prices have been maintained at about \$17.50 @ \$18 for standard, and \$19 for choice brands, all furnace deliveries. Transactions during the week have been confined to small lets, and at the reduced figures quoted there is even less disposition to contract for forward delivery than there was ten days ago.

Bessemer Pig.-Market quiet, with very little disposition to buy. An offer at less than \$21.50 for a shipment of 5000 tons was ccepted on Saturday.

Spiegeleisen .- Since the sale of 2000 ons, 20 %, at \$31.50, quoted in our last, further transactions have been made at a concession, understood to be about 25¢ P ton. Other lots under negotiation at \$31.50 asked.

Muck Bars.—Market quiet, but prices

are steady at about \$34.50 @ \$35 at mill for good 3-inch Bars. A sale was made a few days ago at \$36.50, to be made from a special brand of Pig Iron.

Blooms.—Market quiet, but prices are unchanged as last quoted, say, Charcoal Blooms, \$59. @ \$61; Run-out Anthracite, \$50 @ \$52.50; Scrap Blooms, \$45 @ \$46; Northern Ore Blooms, \$43 @ \$44.

Bar Iron.-The demand has been fair, and, in anticipation of a strike in the Westand, in anticipation of a strike in the West-ern part of the State, prices have a harden-ing tendency. A good many inquiries have been made, and there is every reason to ex-pect a steady demand, so that while there is no probability of any change in quotations, it is quite likely that prices will be brought pretty closely up to what have hitherto been considered nominal rather than actual selling considered nominal rather than actual solling rates. Sales have been made at 2.2¢ @ 2.25¢ for Best Refined Iron by city and some country mills, while others who make a specialty of that class of trade have ena specialty of that class of trade have entered orders at 2.05¢ @ 2.1¢, and, in fact, a large proportion of the sales have been of this description of Iron. The tendency is to stiffen up however, and it need not cause surprise to see 2.15¢ @ 2.3¢ the extremes in both directions. both directions.

Plate and Tank Iron.—There is a little more inquiry, but the general position is about same as defined in our last. Some parties are asking more money, but, so far as known, no sales have been made at any advance on previous transactions. In fact, the amount of new business entered has been very trifling, so that the market has not been tested to any extent. A very slight im-provement in demand would doubtless harden prices, but we hear of offers to sell Boat Plate at 2.3¢, at mill, and other descriptions as quoted last week, viz. : Bridge Plate, Tank Iron, &c., 2.4¢; Shell, 3¢ @ 3.25¢; Flange, 4¢ @ 4.25¢, and Fire-Box, 5¢ @

Structural Iron.-The demand has been fair, and manufacturers report a slight gain in orders from week to week, so that prices are steadily maintained. We have not heard of any contracts of special importance, but the leading concerns are pretty well filled up for some weeks to come. Prices are as last quoted, viz.: Angles, 2.3\$ @ 2.4\$; Tees, 3.2\$, and Beams and Channels, 3.5\$.

Sheet Iron.-The market has been fairly active, and sales made at about same figures as last week. Buyers of large lots have been able to make specially favorable terms, but for small lots prices are about as follows:

Steel Rails,-There is very little of interest in this line, as buyers are taking none but small lots for summer delivery, which are steadily held at \$38 @ \$39 for Heavy Sections. The demand for such is which are steadily held at \$38 @ \$39 for Heavy Sections. The demand for such is pretty well up to the supply, and prices are firm, but for winter work it is highly probable that concessions would be granted on large lots. Light Rails command \$40 @ \$43 and are in good demand.

Crop Ends .- There is some little demand, but prices are held beyond buyers' ideas of value, \$24 being the usual asking price. No sales in this market for some

Old Rails,-Spot lots are scarce, and \$23.50 would be paid for American T's. Shipments are offered at \$23 without attracting attention.

Scrap Iron .- Market quiet and weak. Cargo lots offered at \$23 @ \$23.50; selected yard lots at \$24 @ \$25.

Wrought Iron Pipe.-Neither demand nor prices appear to have been stimulated by the anticipated Western strike, and the market rules quiet. In one or two lines, however, there has been a fair demand for small parcels, but outside of these we hear of little of interest doing. We continue former quotations, viz.: 57½ % @ 60 % discount on Boiler Tubes, and 70 % for Gas and Steam Pipes, with extra discounts on special

Nalls.-Considerable inquiry is reported from the West and South, and on the whole the market may be considered active, with a tendency upward. Quotations remain as given last week, viz., \$3.15 P keg.

#### CHATTANOOGA.

Office of The Iron Age, Market and 8th Sts., CHATTANOOGA, May 28, 1883.

The unseasonably cool weather during the

first of the week had no serious effect on growing crops. The week ends cool and rainy. Streams are low for the season. Boating is attended with difficulties, which reduce the receipts of Coal, Ore and grain by river. Producers of heavy materials are generally piling considerable portions of their output. The building business contin-ues very brisk, and promises to be good during the summer and fall.

naned may deem it expedient to reduce their prices rather than permit the gap to become wider than it now is. In the meantime, the supply of favorite brands being limited, prices are steady, while others are weak, irregular and hard to move in quantum for the than the supply of favorite brands being of Iron.—Large shipments are being made to Northern points. The stronger companies are holding considerable amounts of Iron rather than sell at present quotations. In cases of weak concerns that continue production, no quotations are attainable. They

ton, \$2 @ \$2.75; Red Fossil, \$2 @ \$2.25, delivered at furnace.

Miscellaneous Articles .- Old Rails are in good supply at \$23. They are being largely used by nills, but replacements keep up stocks and hold prices down. We quote: Wrought Scrap, \$18 @ \$22; Cast Scrap, \$11 @ \$14; Old Wheels, nominal, \$22.

Nails -The Nail market continues in fair condition. No Western stocks are being pushed upon the South below quotations. We

#### CHICAGO.

EVERETT & Post, 156 Lake street, report to us as follows, under date of May 26, 1883: Pig Lead.—The past week has developed nothing new in Pig Lead. There have been sales of some 400 tons Common and Refined Lead, basis 4.15\( \phi \) @ 4.17\( \phi \) here, mostly for shipment East. The market closes very quiet, nominally 4.15\( \phi \). The outlook for Lead is anything but promising, and unless there is a revival in trade very soon we look for much lower values. Coke.—The past week has shown no improvement in the Coke market, prices ranging from \$5.50 to \$5.60 ? tet, prices ranging from \$5.50 to \$5.60 \$7 ton of 2000 pounds, f.o.b. cars Chicago, for prime Connellsville Foundry Coke. Crushed Coke at \$6 @ \$6.10 \$7 ton, f.o.b. cars Chicago. The market is weak and uncertain, owing to the depressed state of the Iron owing to the depressed state of the Iron

#### LOUISVILLE.

GEO. H. HULL & Co., Commission Merchants, report to us as follows, under date of May 26, 1383: The market is dull and quotations must be regarded as nominal. There is, however, a large amount of Iron being consumed, but sales are confined principally to cheap Irons from Ohio and Virginia. Very little Iron of standard quality. nia. Very little Iron of standard quality being sold. We quote round lots for FOUNDRY IRON.

No. 1 Hanging Rock Charcoal	\$25.00 @ 26.00	
No. r Southern Charcoal	82.00 @ 23.00	
No. 1 Hauging Rock Stonecoal and		
Coke	20,50 @ 21.40	
No. 1 Southern Stonecoal and Coke	81.50 @ 22.00	
No. 2 Southern Stonecoal and Coke	20.00 @ 20.50	
"American Scotch"	19.00 @ 20.00	
Open Silver-gray	19.00 @ 19.50	
Close Silver-gray	18.00 @ 18.50	
MILL IRONS.		
No. 1 Charcoal	20.00 @ 21.00	
No. 1 Stonecoal and Coke, Neutral	19.00 @ 19.50	
No. 2 Stonecoal and Coke, Neutral	15.00 (4 18.50	
No. 1 Stoneccal and Coke, Cold-short	18.0: @ 18.50	
No. 2 Stonecoal and Coke, Cold short	17.00 @ 18.00	
White and Mottled Cold shout and		

adjusted and the mills run on as usual The true inwardness of the situation is that each mill is anxious to have its neighbors shut down in order that it may reap the immediate benefit of reduced production, and also the benefit of the contest over wages without making the fight. Certain it is that the out making the fight. Certain it is that the public has not taken fright sufficiently to pay much more for goods. Bar Iron in good supply. Some of the mills are asking more, but buyers are averse to paying more, so there are few, if any, transactions at advanced figures. This market is affected by the proximity of Southern mills, an influence the proximity of Southern mills, an influence not falt much north of us. Hoop Iron dull—nortfalt much north of us. no felt much north of us. Hoop hon dull— no movement to note. Sheet Iron in good demand and prices well upheld. The mills seem busier on this class of Iron than any other. The season for Light Sheet seems to other. The season for Light Sheet seems to have opened unusually early. Nails are probable, perhaps, that some of the smaller producers will be crippled, so to speak, and any further orders, especially where the assortment has not a fair share of fancy sizes. rtment has not a fair share of fancy sizes. After an extreme cold snap, with snow, the weather is again warm and favorable to agriculture. General business prospects are

the market. Quotations are :
HOT BLAST CHARCOAL IRONS.
Missouri     \$21.00 @ 22.00       Southern     22.00 @ 23.00       Ohio     97.00 @ 29.00
COAL AND COKE IRONS.
Mismouri     21.00 (0) 22.00       Southern     20.00 (0) 22.00       Oluio     21.00 (0) 26.00
MILL IRONS.
Red Short
CAR WHEEL AND MALLEABLE IRONS.
Missouri 21.00 @ 22.00

sell for what they can get-though there are creasing their demands for Iron materials. very few of this kind in the Southern district. The sale of part of the bankrupt will shut down June 1, all are preparing for trict. The sale of part of the bankrupt will shut down June 1, all are preparing for Marshall stock, at prices ranging from \$14 it. Best H. R. C. C., \$25.50; Good, \$24@ to \$18, does not tend to stiffen prices. We \$25; Southern, No 1, \$21@ \$22; No. 2, quote: No. 1 Foundry, \$19@ \$20; No. 2 50¢@\$1 less; H. R. Coke, No. 1, \$22@ Foundry, \$18@\$19; Gray Forge, \$17@\$18; White and Mottled, \$15@\$16; Car-wheel Mottled, \$26.

Ores.—We quote: 50 % Brown Hematite, \$100; Forge, \$17@\$23 for range S. C. Coke and C. C.; Car Wheel, Cold Blast C. C., \$26 for \$27. Sozap: and C. C.; Car Wheel, Cold Blast C. C., \$20 (\$ \$29 ; Warm Blast, \$25 @ \$27 ; Scrap : Rails, 1¢; Old Wheels, 95¢ @ \$1 ₩ 100 b.; Wrought, 80¢ @ \$1.25 ; Cast, 50¢ @ 80¢. No active demand.

#### BALTIMORE.

W. N. WYETH, Iron and Steel Merchant, 46 and 48 South Charles street, reports us midition. No Western stocks are being the following, under date of May 28, 1883: We have to report a quiet but rather improved market for the past week. Values gher.

pushed upon the South below quotations. We quote them at \$3; carpenters' supplies, 10¢ higher.  Manufactured Iron.—We quote Bar at	We have to report a quiet but rather improved market for the past week. Values are somewhat firmer, but continue ruling quotably unchanged.
\$2 for large bills and dull; Railroad Spikes, \$3; Track Bolts, \$3.30; Fish Plate, \$2. Coal.—We quote: Fancy Lump, \$3; Common, \$2.50; run of mine to manufactur- ers, \$1.75 at mills.	Ref. Bar Iron, 1 to 6 x 34 to 1 \$\mathbb{\pi}\$ \ 2\lambda \ \text{\pi}\$ \ 2.35\\mathbe{\pi}\$ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \
Coke.—We quote: Furnace Coke, \$3 at point of consumption; Foundry, 100 @ 12\$ \$\text{9}\$ bushel.	Norway Nail Rods
CHICAGO.	Railroad Spikes, 5½ x 0-16 " 2 6-10 @ 2 7-1c   Perkins' Horse Shoes, % keg of 100 lb \$4.37½   Mule Shoes, 5-37½

No. 1 Scotch Pig Iron	23.50 @ 26.50
No a Anthracite Pig Iron	21.00 @ 24.00
No. 2 " "	20.00 @ 22.00
No. 1 Virginia Coke Pig Iron	21.00 @ 22.50
NO. 2	20.00 @ 21.50
No. 3 16 11	19.00 @ 20.00
White and Mottled	17.00 @ 19.00
Virginia C. B. Charcoal	26.00 @ 28 00
Old Dom. Nails (carload lots)	3.00 @
Old Iron Rails	31.00 @ 22.00
Old Car Wheels	18.00 @ 20.00
Wrought Scrap, No. 1	19.00 @ 20.00
Cast Scrap, No. 1	18.00 @ 19.00
Richmond Refined Bar Iron	2 2-10¢ base
Horse Shoes (Tredegar)	4.25 @
Mule " "	5.25 @

## Our English Letter.

Review of the British Iron, Steel, Metal and Bardware Trades.

> (From Our Regular Correspondent.) LONDON, ENG., May 14, 1883.

THE IRON MARKET has again been remarkably quiet in all directions, with continued low prices and only a very moderate amount of business in the open markets, and scarcely anything point-No. 1 Stonecoal and Coke, Neutral 19.00 @ 19.50
No. 2 Stonecoal and Coke, Neutral 19.00 @ 19.50
No. 2 Stonecoal and Coke, Cold-short 18.00 @ 18.50
No. 2 Stonecoal and Coke, Cold-short 17.00 @ 18.50
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No. 2 Stonecoal and Coke, Cold-short 17.00 @ 18.50
No. 2 Stonec near future, unless the great strike in the United States should be the cause of iron being ordered from this country—a contingency which at the moment scarcely seems probable. On the other hand, there are indications that we may possibly witness even lower figures than those now current, porary disorganization of the market—as the Marshall failure has done in the United States—although in the long run its effects would be distinctly beneficial. It is more

HOFFER & Co., Pig Iron and Iron Ore Merchants, 417 Pine street, report to us as follows, under date of May 26, 1883: We have no change to note in the condition of the market. Quotations are:

HOT BLAST CHARCOAL IRONS.

\$21.00 @ 22.00

No. 3 is rather in favor of buyers at 40/\$\frac{1}{2}\$ ton, with other sorts pro rata. Shipments ton and the reserve of the condition of the market. cumulating large stocks in their own yards. | ton, with other sorts pro rata. Shipments from the Tees are good, but the reserve stocks are large and there is scarcely any speculative forward buying. Throughout the North of England the iron works are well

Elsewhere pig irons are dull and weak, with values subject to special negotiations. As regards heavy manufactured iron, there is no Ass alteration to report, the principal producers of ship-plates, armor-plates and boiler-plates being fully occupied, while iron for structural, dock yard, chain, cable and engineer ing purposes is being turned out on a satis factory scale. Ordinary finished iron is dull in almost all its various grades, and con-sumers are enabled to place their orders to advantage. Merchants are understood to be quietly purchasing rather freely, under the impression that values are now at their min ima. Marked bars are nominally £7. 10/ but less money is being accepted in some quarters, and medium bars are to be had at £7 @ £6. 10, while common sorts range from £6. 5/ to £5. 7/6 for ordinary Welsh assortments. Such business as is being transacted in bars is mostly in the commone The sheet mills are a little better off, but they are not busy, nor is there any special improvement in the demand for hoops and strips. Fencing wire is still dull, and there is only a modest movement in galvanized iron. Iron rails are only inquired after for special uses, and are nominal at £5 @ £6, according to weights, &c. Old rails are firmly sustained, owing to the disposition of the railway companies to hold for higher prices and to a limited supply at convenient ports. Heavy wrought scrap is neglected, and therefore purely nominal in value. Cast scrap is entirely without noticeable features at 36/@ 39/ 17 ton. Steel rails are weak and quiet in the absence of export orders of moment, most of the home lines having anticipated their requirements some time ago. Wages are being lowered in this branch, and prices seem very likely to fall below existing limits, which may be called £4. 12/6 @ £5 for ordinary heavy flange sections. The mills are well engaged, however, especially on the seaboard, those in Wales being said to have plenty of work on hand up to the end of the half year. Blooms are still neglected, but crop ends are scarcer and 62 6 \$\mathbb{H}\$ ton, run of the mill. ends are scarcer and firmer at 62/@

AMERICAN MACHINES AND TOOLS IN RUSSIA. Some of the British consuls in South Russia give splendid testimonials to American machines, &c. Mr. Lowe, of Berdiansk, says that American reaping machines com-mand the market, "and it must be admitted that they far outstrip all English makes in suiting the requirements of the country.

Johnston's iron-frame harvester is the machine most inquired for, and the number sold must be simply colossal, as in nearly every village and colony of South Russia, and also to a considerable extent in the Caucasus, this machine is to be found, and gives universal satisfaction. The demand will probably increase as the value of a good machine becomes better understood by the Russian farmer." Mr. Lowe wants to know why the English manufacturers do not de-vote more attention to this business, and adds, "American bay forks are also largely imported, having proved to be far superior to English makes." The consul at Taganrog also bears evidence as to the strength and durability of American manufactures. The reapers and mowers, he says, are principally of American make—Johnston's and McCormick's-and have an extensive sale.

#### SCOTCH PIG IRON

has again been quiet, and prices are much as at the date of my last. Warrants are neg-lected, but there is a good turnover in makers' brands. Writing from Glasgow on May 11, James Watson & Co. said: "There is no new feature to report in the condition of the Scotch iron trade, the fluctuations on the market throughout the week being un-important. The demand for shipping iron remains dull. The Middlesboro' market is unchanged, and there is no improvement to report. The warrant market was closed last Monday, and on the following day the price relapsed from 47/6 to 47/4, cash. On Wednesday the market was again easier, with a small business done between 47/5 and 47/3 \$\frac{1}{27}\$ ton. Yesterday the price receded further, from 47/3 to 47/, eash, quickly rallying in the afternoon to the former figure. To-day the market opened quiet, with a small business done at  $47/2\frac{1}{2}$  and 47/2; in the afternoon some buying set in and the price improved to 47/5, closing buyers thereat. The shipments last week were 13,193 tons, as compared with 11,387 tons for

responding	M. COW	O.E.	44	-	, 4		J.	•	-	,,,				* *	-	des	
													0.				No.
G. M. B., at (	Hasgo	₩.,				0							43	/6			54/
Clyde,	8.0												50	16			48/
Coltness,	4.6	0.1				۰							03				54
Langloan,	46												6:1				54/
Gartsherrie,	4.6												59				54/
Summerlee,	86		0.1			0 0	0 4		0	0	0		60,	-			51/
Calder,	0.0	0.0								0	0		60,	16			51/
Carnbroe,			0.1					0	4	0	٠	,	55/				49/
Glengarnock.	at Ard	Iros	38	a	a				0	۰	0		54/	0			48/
Eglinton,		0.0				. 4				۰	+		48,	6			46/
Dalmellingto	n.	80						0	٠	0			19	0			48/
Shotts, at Lei	th				0					0	٠	. !	03/				56/
Kinneil, at Bo	ness.	* * *	1	0							0		18/				47/
Carron, at Gr	angem	ou	(n)						0				50/				48/

WEST COAST HEMATITES weather is again warm and favorable to griculture. General business prospects are cood.

At Glasgow, warrants have been fairly upheld on the strength of better shipments last week and by reason of speculative manipulation. Scotch makers' brands are weaker than when I last wrote concerning that class of pig iron. Notwith-last week and by reason of speculative manipulation. Scotch makers' brands are weaker here and there, owing to the freer imports of Middlesboro' pig, and the market is almost lifeless, so far as new business is in question. Mixed lots in pression that makers have lately been accumulating large stocks in their own yards.

abouts, a	and	makers	' bri	ands	are as	under
			N	6. I.	No. s	. No
Cleator					55/	
Lonsdale.				52/6	51/	
Workingt					51/	5
West Cun	aber	land			***	
lowther.				52/	51/	5 5
foss Bay					4.4.5	
Distington	n			52/	51/	5
Tarringto	n			52/	51/0	
lolway				53/	51/	
daryport				53/	51/	6 5
757.5	TO T	CARDO	12 99	ATAR	BETTE	NS.

THE LEADING ITEMS in the export returns are as under

	Quan	tities.	Values.			
Articles.	1882.	1883.	1882.	1883.		
FirearmsNo. Copper, unwt., cwts. Copper, wrt., cwts Mixed or yellow metal sheathing,	18,272 13,896 28,732	19,333 35,081 20,137	£23,791 48,496 110,141	£46,765 122,176 78,764		
cwts. Coal, &c. tons. Hdw and cutiery Pig frop, tons Bar, angle, &c., tons. Irob rails, tons. Steel rails, tons. Railroad, alisorts, tins Wire (except tel.	36.438 1,680.123 146,575 23,665 3,421 52,223 64,959	30,456 1,859,043 133,140 20,868 1,753 63,171 79,635	114,247 758,815 329,835 418,985 175,625 20,772 341,076 431,838	89,587 648,702 291,863 246,121 149,978 12,623 377,270 489,363		
wire) galvanized or not,tons	7,101	5,423	105,387	86,224		
Hoops, sheets, and boiler pits., tons Fin plates, tons Cast or wro't, tons Old, for manufac-	24,825 18,137 27,551	26,709 22,708 29.956	292,401 325,111 367,703	294,964 404,436 389,566		
ture, tons	13,661	7,292	55,717 184,096	41,452 118,822		
and iron, tons Lead - Pig, rolled	1,414	781	75,352	38,752		
sheet, piping, and tubing,tons Steam engines Other descriptions of	3,563	2,597	54,498 295,053	38,219 353,027		
machinery and mill			613.688	674,775		
Plate and plated and gilt wares			25,491	21,417		
with	7,881 17,210	9,259 13,587	129.757 39.078 10,932	28,052 45,976 8,709		

the principal lines were		TES	
Articles.	Month of April, 1883.	Month of April, 1882.	Month of March, 1883.
Alkali, ewts	242,386	313,654	285.596
Hardware and cutlery, £.	35,453	33,901	34,205
ron-Pig, tons Bar, angle, rod, &c.,	23,247	47,326	23.547
tons	1,487	I.44I	962
Railroad, all, tons Hoops, sheets, plates,	4,518	16,360	4,957
&c., tons	2,638	1,904	2,286
Tin plates, tons	18,187	14,499	16,021
Cast or wrought, tons	717	502	414
Old, tons	8,228	11,210	3,173
teel, unwrought, tons	3.891	14,474	4,708
ead, all sorts, tons	2,597	3,503	63
team engines, £	4,300	17.139	5,245
other machinery, &c, £	49.113	37,817	42,734
in, unwrought, cwts	66 t	706	247
tons	****	1,752	979
Steel rais, tons	4,342	14,459	3.712

aid by the	Uni							re		
								£	e.	d.
ig iron ron rails		****						3	on	4
Steel rails		- **						6	10	105
crap fron								3	7	II
Scrap iron Inwrought s	teel							12	6	53
in plates, pe	r ton							17	14	9%
or about 17 weight is n	OW	rar	ely	of	f I 2	por ed l	by	s, oro	w h lin	ary

	boxes of an places.				- 8
1	SOME CURRENT PRICE	8			1
ı	are as given below, in London:				1
ĺ	are as given below, in isolates.	£	9.	d.	1
	Copper sheets, 4 x 4, \$9 ton			00	1
	Copper sheathing, w ton			00	1
	Yellow metal sheets, 4 x 4, W D			06	ı
	Yellow sheathing, P b			06	ı
	Wallaroo copper, P ton	69	00	00	1
1	Chili Copper, & ton		03	00	1
	Best selected ingot, @ ton	70	00	00	1
	Brass wire, & D		00	97	1
	Copper wire, & D	00	00	9	1
	Composition nails, W D	00	00	75%	1
	Copper tubes, & D	00	03	9%	1
	Brass tubes, 10 10	00	00	09	1
	Sheet zinc, best brands, # ton		5	90	
	Hard spelter, \$\text{10 ton} \cdots	IO	5	00	1
	Hard spelter, special brands, W ton	EE	00	00	1
	Virgin spelter, 2 ton	15	5	00	П
	Virgin spelter, special brands, & ton.		15	00	1
	Re-melted spelter, # ton	14	00	00	1
	Straits tin, W ton	95	IO	00	1
	English tin, in ingots, \$\text{9} ton		00	00	l
	Galvanized sheet iron, 18 & 20 G.,				ł
	pl ton	13	5	00	1
	Galvanized sheet iron, 22 G., W ton	13	0	00	1
	Galvanized sheet iron, 24 G., P tou	13	5	00	
	Galvanized sheet iron, 26 G., in felted		**	00	1
	Gas tubes, black, 72½ % off list.	10	10	00	Ιi
	Gas tubes, galvanized 5716 % off list.				li
	Boiler tubes, 60 % off list.				1
	Quicksilver, P bottle	5	10	00	1
	Tin plates, I C coke, W box		16	90	
	Tin plates, I C coke, tin lined, W box.	00	17	00	
	Tin plates, I C charcoal, W box	90	20	00	
	Cube nickel, P D	00	3	6	
	German silver sheets, & b	00	1	8	
	Bright iron wire, No. o to 7, @ ton	9	10	00	
	Feneing wire, o to 6, & ton	9	00	00	- 3
	Wire nails, o to 7, % cwt	00	Q	00	Ł
	Bamboo steel, % up, & ton	9	15	00	83
	Regulus of antimony, 9 ton	40	00	00	8
	Crude antimony, & ton	23	10	00	T
	Lead, L. B. pigs, & ton	13	15	00	1
	Lead sheets, & tou	14	00	00	h
	Lead pipe, P ton	14	5	00	ŀ
	Lead shot, \$ ton	16	28	6	8

during April and the four months ending April 30, has been issued by Mr. Giffen, of the Board of Trade: also appears that there is a growing move-ment in the direction of the Australian and New Zealand colonies.

#### FOREIGN.

(Moniteur des Interets Materiels)

FRANCE.

(Moniteur de Interets Materiels)

PARIS, May 13, 1883. — Metals.—The volume of general business this spring has not come up to last year, notwithstanding the effect of the January panie then felt. Metals in general have nevertheless been steady, Speiter 2nd Tin even higher during the week. We quote at the close: Copper.—Chili Bars, 160 & 163,75; Ingots and Slabs, 167,50; Best Selected. 175.5c. and pure Corocoro Ore, 167,50.

Tin —Banca, 265; Billiton, 260, and Straits, Australian and English, 257,50. Lead, 32,50 & 33, and Speiter, 30,25 & 40. Iron.—Production in general in France has been cut down about 20 \$0.

On May 1 the owners of Northern rolling mills reduced their output at the Valenciennes meeting by common consent, by working only twenty days this month. The plan to create a general entrepot in this city did not pass at the said meeting. It has been preferred to establish a general entrepot in this city did not pass at the said meeting. It has been preferred to establish a general entrepot in this city did not pass at the said meeting. It has been preferred to establish a general entrepot in this city did not pass at the said meeting. It has been preferred to establish a general entrepot with products, the situation in this city is far from being comfortable in the Iron trade; the dealers' asking price for Merchant and Flooring is 73.50 francs, but may be shaded to 18. It seems that the Government has at length arrived at an understanding with the great railroad companies so that an extended demand for railroad material looms up in the near future. Coal.—Great firmness is noticeable in the Northern Coal district, with an advance in some quarters.

#### BELGIUM.

(Moniteur Industriel.)

BRUSSELS, May 14.— Fron.—Spring has certainly not brought the revival that had been counted upon to help the Belgian Iron industry, which remains in a deplorably depressed condition. A few works, it is true, have no particular cause for complaint, and it is announced that important orders have been received by certain rolling mills, especially in the Liege Basin, but in order to improve prices a more general demand would be necessary. A few makers, though overloaded with work, cannot mend the general status. There is even a chance that in Finished Iron a break may occur any day, for it is chiefly sustained by the high price of Pig Iron and Coke. English Foundry Pig is but ill-sustained at 5.35 @ 5.59 francs if rooks. Domestic is neglected at 6.35 @ 7.25 for Foundry; Domestic Pudding is weak at 3 @ 6.35; Athus-Halaz-y is firm at 5.75. No. 1 Merchant has sold on terms equal to 12 francs; No. 2 is neglected at 13.75; No. 3 weak at 14.50; No. 2 Sheets, 17 @ 18; No. 1, 19 @ 20; Commercial, 21 @ 22; Thin, 23 @ 25, and No. 4, 27 @ 28. Coal.—Although the summer season is at hand, the Coal market has been on the whole, well sustained, except perhaps a slight weakness in Coal for Coke and in Coke. Industrial sells at 8.50; Domestic at 13.76; 16. German competition is felt in various quarters. As for the Government Coal adjudication, it seems that it has been decided to take the line of Coal tendered at a general reduction of 25 centimes, probably the best plan. (Moniteur Industriel.)

#### GERMANY.

(Borsenhalle.)

GERMANY.

(Borsenhalle.)

Hamburg, May 15.—Iron.—The situation in the Iron trade in Germany cannot yet be called very brilliant, the demand, for Pig Iron in particular, rather slackening, from all appearances. Rollingmill products are in good request, but without improvement in rates, for Finished Iron is too freely offered, and these offerings, if anything, seem to be on the increase. In Upper Silesia the question of curtailing the rolling-mill output is the order of the day; it is therefore hoped that the expired agreement relating to reduced production may be soon renewed; unless it should be, there will be overproduction and a corresponding decline in prices. Steel works, on the other hand, are sufficiently occupied. At Magdeburg an important Stel Rail adjudication has come off. In March there were in operation in Germany 75 blast furnaces, turning out 163.07 tons of Paudding Pig; 15 producing 12.031 tons of Spiegel; 17 making 40.050 tons Bessemer; 2. 25,122 tons Thomas, and 35, 28, 22 tons Foundry. In February they turned out respectively, in the above order, 155,711, 12.631, 41,403, 25,107 and 31,036. Metals have been inactive. We quote Lead, at a decline, 3,50 @ 14 marks 8 50 kg., German Pig; Copper, weak at 77 @ 83; Neptler, without anything doing, 14,50 @ 15,75, and Tin sustained at 104 @ 107. Coal is in good position in consequence of the large export demand existing.

#### HOLLAND.

(Koch & Vlierboom.) ROTTERDAM. May 13, 1832.—Tis.—On the 31st Inst., 22,400 slabs Banca Tn will be put up for sale by the Netherland Trading Co., nending which the market is quiet at 50,25 guilders \$\mathbb{P}\$ 50 kg. for Banca, and 38 \$\mathrew{@}\$ 58.84 for Billion, spot, while to arrive the latter is held at 50.

#### EAST INDIES. (Gilflian, Wood & Co.)

Singapore. April 16, 1883.—Tin.—Ten days ago \$30.50 \$\mathbb{P}\$ picul was paid, but since then the market has dragged at \$30.15 \$\mathbb{P}\$ icul, and this price has only been maintained by dealers holding back supplies. Owing to the small settlements, the market at the close has assumed a firmer tone. Freights.—The advance noted in our last report has been maintained; for New York the James L. Pendergast is getting on well with her loading, and the Norway has taken the berth to follow her; for Boston the Agrate loads on charterer's account. Exchange is weak at 38% for six months' credit drafts on London. The Gardner Colby left for New York with \$40 piculs Tin. Tin shipments from the Straits settlements for the United States during the first quarter were 26.885 piculs, against 33.251 last year; \$35\sin 1800, and 10.411 in 1878. The Jason took for New York \$43 piculs.

#### (Dummler & Co.)

		Mont	H ENDI	APRI	IL 30						
Nationalities.	United	United States.		tish perica.	Austr	alasia.	All o		Total		
	1883.	1882.	1883.	1882.	1883.	1882.	1881.	1882.	1833.	1882.	
English Scotch Irish	2,537	2,660	736	4,064 1,103 972	498	1.773 300 914	837 77 40	1,199 171 69	19.975 3,848 21.930	20,89 4,23 16,80	
Total of British origin Foreigners Nationality not distinguished		31,360 23,369		2,202			954 116 235	1,439 140 211		25,94	
Total	43,411	54-738	8,342	8,401	4.510	3.158	1,305	1,790	57 568	68,08	

Missouri	speculative forward buying. Throughout the North of England the iron works are well	Maryport 52/ 51/6 51/		our Mo	MONTHS ENDED APRIL 30										
MILL IRONS.	angles being particularly large. All the	for the month of April show that the total	Nationalities.	United	States.	Bri N. An	tish nerica.	Austra	lasia.	Allo	ther	Tot	al.		
Red Short 19.00 @ 20.00 Neutral	mills are now running under the restrictive arrangement of ten, instead of eleven, turns	value of our imports was £38,094,181, as against £36,079,207 in April, 1882, and		1883.	1882.	1883.	1882.	1883. [	1882.	1883.	1882.	1884.	1882.		
CAR WHEEL AND MALLEABLE IBONS.  Missouri 21.00 @ 22.00 Southern 25.00 @ 30.00 Ohio 35.00 @ 35.00	per fortnight. Hematite pig irons remain very dull, and are weaker in values, sales of mixed lots, in equal proportions, being reported to have taken place at 50/6 @ 51/ & ton. The restriction agreement on the West Coast has not yet materially affected the	£35,232.364, April, 1881, the increase being largely in breadstuffs and other food products. The aggregate value of the month's exports was £18,442,000, against £18,373,262 in April, 1882, and £18,130,331 in April, 1881. The total quantity of iron and steel exported	English Scotch Irish Total of British origin. Foreigners Nationality not distinguished	4,926 27,881 58,469 16,485	6,601 25,568 60,603 44,562	750 2,373 9,956 1,499	8,977 2,387	2,570 2 803 18,195 425	1,209 3,210 9.137 379 2	342 123 4,000 553 215	777 333 6, 69 669 840	8,688 3:,185 90,681 13,463, 924	0.737 29,300 85,080 47,917 843		
about as reported last week. Foundries are all well supplied with orders and make their requisition for Pig Iron as it is needed. Some larger "agricultural works" are	stocks are steadily increasing. There are rumors of new American inquiries, but they do not appear to be well founded. From	was 338,459 tons, valued at £2,359,778, against 345,704 tons and £2,433,215 in April, 1882, and 329,100 tons and £2,337,469 in the same month of 1881. The total quantity for the first four months of 1883 is 1,217,294 tons, as against 1,339,211 tons in 1882.	The figures show that yo bulk of the emigrants, an	u still d also oril in t	obtain that t	the here tish,	Copper Yellow arrived from E	Sheath Metal a with 3	ing at 66	Suther	assorte	ed sizes Stanfiel otal in om Aus	a and d has aports stralls		

Buckingham, since Jan. 1 last. Petroleum.—No business doing; by the arival of the American Thomas A. Goddard, with 22,000 cases, imports from New York during the first quarter of 1853; reach up to 185,360 cases. Exchange, six months' credit, 11.92½ @ 11.95 guilders \$2.

(Hessenauer & Co.) (Hessenauer & Co.)

Colombo, April 23, 1883.—Plumbago.—A moderate trade has been transacted without change in price. We quote in rup-28. If ton: Fine Lump, 150 @ 160; Ordinary, 130 @ 140; Chips, 65 @ 73, and Dust, 40 @ 12. Shipments from October 1 to April 13: To the United Kingdom, 59,746 cwt.; to Trieste, 201; to Havre, 755; to India, 2014, and to the United States, 84,878; together, 148,538 cwt., against 21,032 last year, 03,032 in 1881 and 10,095 in 1880. Exchange, 6 months sight credit drafts, 1/754.

#### Forged Letters Repudiated.

Hon. Wm. D. Kelley, of Pennsylvania, sends us a copy of a letter addressed by him to the Philadelphia Press, as follows:

To the Editor of the Press.—Sin: After three weeks of such absolute seclusion as de-

nied me intercourse with my nearest friends, my attention was called, last evening, to a special dispatch from Pittsburgh, on the sub-ject of "The New Tariff and Labor," which appeared in the Press of the 19th, and which represents me as an active participant in the wages controversy now agitating Western Pennsylvania. It says: "The venerable Judge Kelley writes: 'I have no hesitancy in saying that it is groundles to base the pro-posed reduction of the wages of the iron workers on the reduction of duties as provided by the act of March 3, 1883. It is true there is some reduction in the bill, but a reduction such as proposed in wages, of from 10 per cent. upward, would place the entire reduction on labor, instead of apportioning it between labor, materials and capital. The chief obstacle waged against protecting our iron and steel industries by free-trade mem-bers of the last Congress, was that labor did bers of the last Congress, was that labor did not receive the benefit of more than one-half the protection afforded by the proposed law. Tho old law gave an average of nearly 40 per cent. protection. The new law gives over 30 per cent. protection. The proposi-tion to impose all this reduction on labor is printed to the proposition of unjust, unless some other reason than tariff reduction can be assigned therefor."

This is, if I and my phonographic clerk have not lost our memories, a sheer fabrication. Your correspondent then proceeds to

give what purports to be an extract from a letter from my colleague, Colonel Bayne, of Allegheny, to me. If my friend Bayne ever addressed such a letter to me it must have miscarried, for I certainly never received it. Indeed, I am not conscious of ever having received a written communication from him on any subject. The tariff discussion developed the fact that Colonel Bayne and I held conflicting views as to many matters of detail, and we voted on opposite sides of the question of accepting the report of the Com-

mittee of Conference.

Trusting that you will find space for this. and thus vindicate me against the folly of meddling in a controversy which is not mine, and into the merits of which, in my prostrate condition, I am incapable of entering, I remain yours, very truly.

WM. D. KELLEY.

PHILADELPHIA, May 25, 1883. As we have made editorial mention of these alleged letters, though with a strongly expressed doubt as to their genuineness, we are glad to give space to Judge Kelley's repudiation of the one attributed to him.

### The Basic Process at Harrisburg.

The following letter, over the signature of Basic Steel," has been received by the "Basic Steel," has been received by the Bulletin of the American Iron and Steel Asso-

ciation:
The Pennsylania Steel Co., having found it unnecessary to work their original Besse-mer plant on account of the large product of their new three-converter plant, determined to make a test of the basic process, and accordingly commenced two or three months ago to make such alterations in the old plant as would suffice to give the new process a practical test. The alterations consist prin-cipally of the change of a cupola into a cal-cining kiln for calcining the dolomite, arcining kill for calcining the dolomite, arrangements for preparing the dolomite for use, and the molds requisite for putting the dolomite into place in the cupolas and converters. The preparations having been completed, a start was made on Monday, May 7, 1883, and the first heat of basic steel ever made in the country was a decided success, the steel showing excellent physical tests, and was suitable for boiler plate, although not so low in phosphorus as other heats made later with a longer 'overblow.'

The dolomite was obtained from the extensive deposits at Chickies, Lancaster County, Pa., and the lime for the 'addiwas from the immediate vicinity of rks. The pig iron used was made at the works. The pig iron used was made at the Lochiel Furnace, under the supervision of the Pennsylvania Steel Co., of puddling furnace cinder and South Mountain ores, and contained of manganese and phosphorus each about 2½ per cent., and of silicon about I per cent., being principally mottled in grade. The process has continued regularly every day, and with very encouraging results. It may be expected that various difficulties and drawbacks will appear in time, as is usually the case in such experiments, but so far the results have been very good. The steel has been subjected to very severe flanging and punching tests, and shows great fitness for many purposes, according to the carbonization obtained, in some respects excelling any former product at the works. The Pennsylvania Steel Co. are to be congratulated on this successful introduction of a rocess so important in its relations to our

Referring to this letter the Bulletin says; "Several specimens of the steel described above have been sent to the Philadelphia office of the Pennsylvania Steel Co., No. 208 South Fourth street, where we have had the pleasure of examining them. There are several bars, which have been broken to ex-hibit in the fracture the characteristics of hibit in the fracture the characteristics of the steel. It presents a handsome appearance, fully equal to that of steel made by any other method. The label on one of the bars, which was taken from heat No. I, states that the pig iron from which this steel was made was smelted from one-half puddence in dear on the same run. This comparison, although naturally only approximate, is considered by Mr. Daft to be a tolerably fair one. As regards the distance of stationary dynamos along the road, Mr. Daft states that dling furnace cinder and one-half iron ore from South Mountain, Cumberland County,

Pa.; the pig iron contained 2½ per cent. of ologists, who purchased the equine bronze of phosphorus, 2½ per cent. of manganese foot. This they found to be of excellent workmanship, and it appears clearly to intained 0.04 per cent. of phosphorus, 0.275 per cent. of manganese, and o 29 per cent. of carbon. Some flat bars shown had been plunged in water when hot and then bent cold and hammered down flat without showing any fracture. But perhaps the finest sample on exhibition is a plate flanged hot, on which the flange is as perfect as if the material had been the best charcoal hammered plate iron. In other parts of the plate holes were cold punched without cracking the plate in the least, and in one case two These tests show very clearly the out quality of the basic steel made by excellent quality of the basic steel made by the Pennsylvania Steel Co., and demonstrate that, so far as chemical and mechanical re-sults are concerned, the basic process is a complete success.

dicate that the equestrian statue is a valuable relic of antiquity. It has accordingly been determined to endeavor to discover the whereabouts of the horse, and to fish it up, if possible, entire. It is suspected that the statue is probably an ancient votive offering, statue is probably an ancient volve ouering, which was once set up in the island of Delos. The interest felt in the matter is all the greater as, if the work is recovered, it will be the first bronze horse of a large size which has been preserved since the classical age of ancient Greek art. There are very holes were punched within 1-16th inch of few equestrian statues preserved from an-each other without cracking the intervening cient times, and hardly one which can be demonstrated to be of Greek origin.

#### Electric Motors,

Owing to the fact that a combination of the Edison and Field interests in electric The Enterprise Cherry Stoner.

In a recent issue we illustrated the "Gem" cherry stoner, made by the Enterprise Mfg.

Co., Philadelphia—a machine with fine ad-

The Enterprise Cherry Stoner.

justments for neat family work. In the accompanying cut we show the "Enterprise" N. J. The New York Railroad Co., better cherry stoner by the same house, which is a known as the Field Co., is soon to fit up a adjustable by thumb-screws to different sizes of cherry stones, and works with great rapidity, adapting it for use where a large amount of fruit is to be prepared and where a saving of time is an object. It is a decided improvement in machines of its class.

The Working of electric motors, making of the Edison rolling stock at that place. is expected by those interested in the class.

Co. have been making experiments for several parts of the Edison rolling stock at that place. It is a decided improvement in machines of its class.

#### A Novel Method of Handling Lumber.

The lumber merchants of Hannibal, Mo. employ a novel method of removing lumber from rafts in the Mississippi to their yards. This, as described by the Railway Review, is usually done by towing the "strings" of which the rafts are composed alongside the shore. The lumber is then washed off by the use of buckets and brooms, and loaded by hand upon wagons which convey it to its proper place for piling in the yards. This method, it will be noticed, necessitates a large amount of manual labor and the occupation of considerable river front in order to handle a large amount of lumber in the

The new method calls in the use The new method calls in the use of the railroad and is operated as follows: A track is laid along the edge of the water, extending even beyond the low-water line. This is heavily ballasted with rock, extending even beyond the low-nace, line. This is heavily ballasted with rock, so that water running over it will have no effect in moving it out of place or floating the ties. At ordinary stages of water, therefore, there is a depth of several feet over the river end of this track. The lumber-raft which it is desired to land is then broken into its "strings," one of which is floated over the line of submerged track and kept in place by a line of guide-piles driven for that purpose. This string is again divided that purpose. This string is again divided into the various "cribs" composing it, which vary somewhat, according to the size of A train of built for the purpose is then run down from the shore, so that one or more of them are under the cribs of the lumber-raft. These cars are of such size that each will take in the length of a crib. By the proper connections of ropes and stakes a crib is moored over a car, and the movement of the train away from the water by an engine floats the crib also toward shore. When in such shallow water that it touches the car, the latter receives its weight, and, instead of being floated, it is carried shoreward and out of the water. The cribs thus loaded, each on its car, are switched to the yards, which are now some distance from the river, as by using this method they can be. At the yards the lumber is quickly washed off with a hose while being unloaded.

The advantages claimed by this manner

of handling lumber are many. There is less obstruction of valuable river front by lumber-rafts; cheaper ground can be used for the lumber-yards, as they can be away from the river; the saving in manual labor and teaming is very large, and, lastly, the saving in time is an important item. It is claimed in Hannibal that last year was the first that saw the whole supply of lumber out of the water before winter set in, and this was only possible through use of the method we have described.

An Ancient Greek Bronze Horse .-Grecian reports state that recently, as some Æ rinatan fishermen were fishing for sponges near Delos, they came upon an ancient

nachine of a somewhat different class. It is railroad at Menlo Park, in order to exhibit working of electric motors, making use is expected by those interested in the company that within a very short time satisfactory results will be reached. The Daft Co. have been making experiments for some time past, and, as recently stated in our col-umns, are now engaged in fitting up motors that are to be used on the Newark and Bloomfield Street Railroad. Both companies, it appears, are paying special attention to the street-car branch of electric railroading, although the Field Co. have also the ultimate object of introducing the electric motors on the elevated roads in this city. The Field system requires the use of an extra insulated rail, which it is proposed to sink in a tube below the street level. This tube will be narrow enough to prevent carriage wheels from passing through, and upon this sunken rail a carriage will travel. Mr. Field expects to have his cars running in a short time, and an opportunity will then be given to examine

an opportunity will then be given to examine the arrangement.

The work of fitting up the cars at the Daft Electric Light Co.'s works is being rapidly pushed forward, and although there has been some delay on account of the track between Bloomfield and Newark being out of repair, it is thought that three or four weeks will see avenuthing in readiness for overse. will see everything in readiness for opera-tion. The engine to drive the dynamo will be a 20-horse-power engine, which, though much larger than necessary for the special purpose in question, can be used to generate power for other purposes. The road is only 2½ miles in length, and will require only one dynamo station. Three cars have called for, but the dynamo will yield cient power to run several more. Trials were recently made with one of them at Greenville, and, so far as we can learn, the pany, has prepared a statement of the daily expense of his system and of a horse-car expense of his system and of a horse-car line of 10 miles operating 50 cars. Assuming that 150 horse-power will have to be ready for delivery on the track at all times, a 200-horse-power engine would be necessary to operate the generator. The cost of boilers is estimated at \$8000, the generator at about \$12,000, and each motor, including cost of attachment to car about \$800. This makes attachment to car, about \$800. This makes a total of from \$60,000 to \$65,000. Assuming a run of 16 hours per day, the running ex-penses will be about as fellows:

Coal, 4 tons, at \$5 per to.1..... Engineer for 16 hours.... Depreciation.... Interest on cost of construction....

Total per day for running 50 cars.........\$63 From this it will be seen that the daily expense for one car running 16 hours per day will be about \$1.25. On the other hand, operating the same road by horses, in which case 400 would be used, costing \$150 each, or nearly \$60,000, the cost per day would be as follows

Total.....\$294.87 In this case, then, the expense would be a little less than \$6 per day for the same car on the same run. This comparison, be the distance, while on street roads it would be cheaper to have them nearer together, at stations of about 4 miles. So far as the speed is concerned, it is thought that an exceedingly high rate can be attained, and 70 miles per hour is not considered impossible of achievement.

A Virginia paper gives some interesting particulars concerning the Low Moor Fur-nace, which is some four miles west of Clifton Forge. According to these the furnace, though established in the wilderness only five years ago, is now surrounded by a little town of 2000 people. The furnace is now making about 115 tons of pig metal per day, at a profit that is a source of much gratification to the New York capitalists who are interested in the works. They have an invested capital of \$700,000 and employ about vested capital of \$700,000 and employ about 800 men. The size of the furnace is 18 feet bosh by 75 feet high. The company have four Whitwell stoves; two large blowing engines, drawing steam from 16 boilers; a broad-gauge road running to their mines, and using two locomotives and about 100 cars, making in all a little railroad organization within itself. The mines are located tion within itself. The mines are located about four miles from the furnace.

It is well known that the escape of fire-damp in mines is intimately associated with the hight of the barometer, which thus be-comes a means of foretelling when such escapes are most likely to occur. But ac-cording to M. de Chancourtois, who has brought the matter before the French Acad-eny, the danger is also increased by strain emy, the danger is also increased by strain in the earth's crust causing or opening fis-sures in the coal; and he therefore proposes to fix sismographic apparatus at the head of every dangerous mine in order to detect these strains and provide additional precautions against the gas.

It is now proposed to use the enormous water power of the Alps for working electric railways in Switzerland. Operations are understood to be in progress now to connect the towns of St. Moritz and Pontresina by an electric railway. electric railway 4½ miles long, the motive power to be supplied by the mountain streams. Should the experiment succeed, the undertakers of the railway will extend it to the north for a distance of some 47 miles, and in a southerly direction for about 30 miles, and thus effect a second junction between the Swiss and Italian railways.

It is understood that the directors of the Puget Sound Iron Co. have in con-templation the building of a large rolling mill, at Irondale, W. T. The secretary of the company, who returned from a visit to the company's properties, is said to have recently stated that the subject had been fully considered, and estimates the cost of the proposed mill at \$750,000, and that, in all probability, some definite arrange-ments would be made with that object in view before the close of the year.

The Chicago Steam Engine Works are building several coal-hoisting machines for parties in Illinois, a quantity of stone-sawing machinery, one 150 horse-power engine for a brick yard, and are fitting up a maccaroni factory with engine, boiler, presses and other machinery.

The Northwestern Horse Nail Co. Chicago, propose to increase their plant, which now consists of 71 machines, so that their daily capacity will be eight tons.

# DIXON'S Graphite Paint.

Before painting either Wood or Metal Surfaces, Roofs, Buildings, Bridges, etc., etc., examine the merits of this

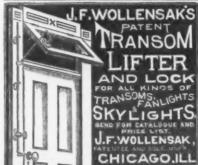
JOS. DIXON CRUCIBLE CO. Jersey City, N. J., U. S. A.

## The Improved Coal Oil (Kerosene)



T. R. LOOMIS, Cazenovia, N. Y

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FOR ROLLING MILLS **MANUFACTORIES** MINING COMPANIES

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**→1883.** 

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GRAND EVENT OF THE YEAR.

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No charge for space or steam power. Special rangements made for transportation of exarrangements made for transportation of ex hibits and visitors. For full particulars, ad dress, Wm. H. STEWART, Sec'y.

1883.4



The only adjustable wire cloth sieve made. It will take out good seeds from refuse of wind mills that cannot be cleaned by any other process. Can be adjusted to many different-sised and shaped meshes Made all sizes and for all purposes. No. 1 will separate Clover Feed from Plantaio, Da'sy, Buckhorn Wild Carrot, and No. 2 will separate Wheat from Rye Wild Carrot, and No. 2 will separate Wheat from Rye, Cockle and Cheat. No. 3 for Peas and Beans and Coin. No. 4 for Onion Sets. Price, \$2.25 to \$2.59. Crank and power machines, made with Adjustable Sieves four to ten feet long, will clean and grade from ten to a hundred bushels of seed or grain per hour ten to a hundred bushels of seed or grain per hour cheat and the set of the set of the period of the period of the period of the period of the contract of th MADE ONLY BY

MILTON SIEVE CO., Limited, Milton, Pa.

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FOR ALL PURPOSES,

Scythe Stones and Mounted Grindstones.

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THE MILLER CO. CANTON, OHIO,





Ohio Farm, Church, School and Factory BELLS. Also very superior strong, soft and clean CASTINGS If you have failed to get difficult pieces elsewhere give us a trial.

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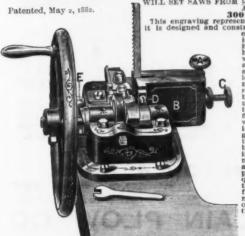
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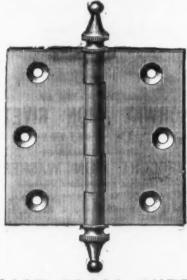
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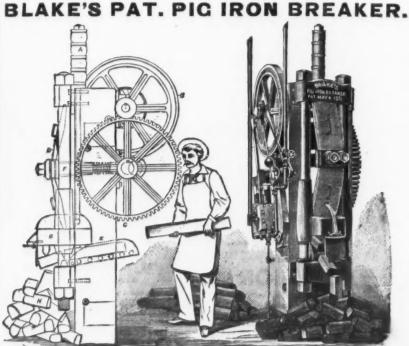
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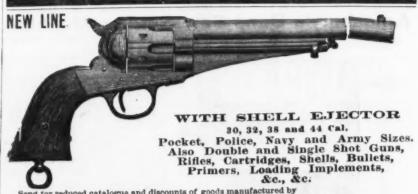
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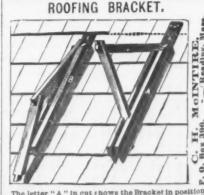
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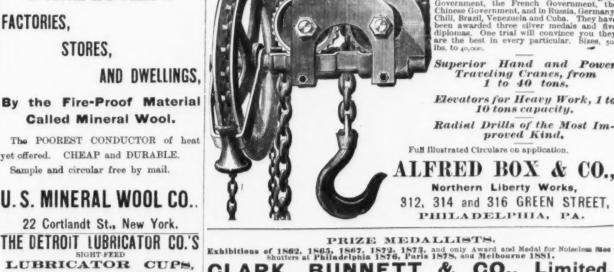


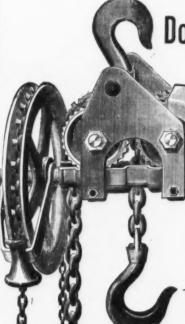
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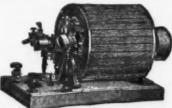
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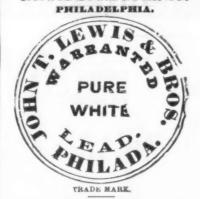
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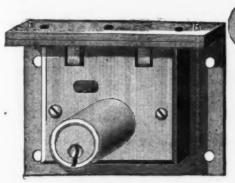


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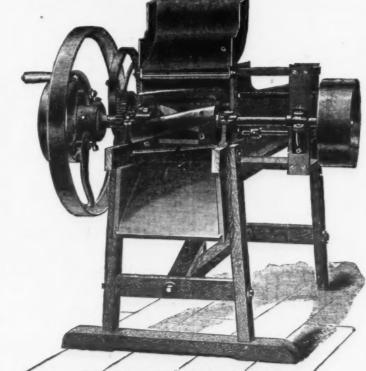


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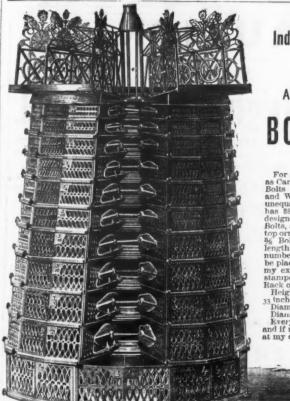
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# The Iron Age Directory

	and Index to Advertisements.
	Agricultural Implements.  Grant Fan Mill and Cradle Co., Melrose, N. Y
	Air Compressors. The Norwalk Iron Works Co., S. Norwalk Conn., 4.  Aiarm Money Drawers, Oneida Alarm Till Co., East Syracuse, N. Y
	Anti-Friction Metals, geeves Paul S., Philadelphia
	Aprils. Manufacturers of.  Boker Hermann & Co., 101 and 103 Duane, N. Y
	Arms and Ammunition. Conway T. G., & Chambers, N. Y
	Remington E. & Sobs. 283 Broadway, N. Y
	The Asbestos Packing Co., Boston, Mass
	Attorney at I.aw. Webster, J. H. Cleveland, O
	Wurster F. W., Brooklyn N. Y
	Band Saw Setting Muchine. Goodell & Waters, Philadelphia, Pa
	P. W. Gailaudet & Co., 2 Wall, N. Y
	Ohio Steel Harb Fence Co., Cleveland, O. Washburn & Moen Mig. Co., Worcester, Mass 2  Bellows, Manufacturers of, Flaceus Wm. & Son, Pittsburgh, Pa 5 Scott tieo. M. Chicago, Ill
	Scott tieo, M. Chicago, III
	Browning, Sisum & Co., 85 Chambers, N. Y
	Heiting, Makers of. Alexander Bros., 412 N. 3d, Philadelphia
	Beit Protectors. Lewis Edward S., Albany, N. Y
	Fope Mfg. Co., 497 Washington, Boston. 44 Bird Cages. Makers of. Gunther G., 46 Park Place, N. Y. Lindeman O. & Co., 24 Pearl, N. Y. Maxwell John, 247 and 249 Pearl, N. Y.  7
	Blind Awning Fixtures. North F. W. & Co., Boston, Mass
	Blasting Materials.  Hercules Powder Co., Cincinnati O
	Blecks, Tackte. Makers of. Barnall & Loud, Boston. Mass
	Boilers, How to Keep Clean. Hotchkiss J. F., & John, N. Y.  Boilers, Steam. Edge Moor Iron Company, 70 Liberty, N. Y. Harrison Boiler Works, Philadelphia, Pa. 43 Lowe & Wasson, Bridgeport, Conn. 77 McNeil, James & Bro., Pitaburgh, Pa. 29 McNeil, James & Bro., Pitaburgh, Pa. 29
	Lowe & Watson, Bridgeport, Coun
	Bolt and Screw Cases.  Am. Bolt and Screw Case Co., Dayton, O
	Bait Catters.  Roward Iron Works, Buffalo, N. V
	Witty & Russell and Co. Lowell. Mass. 20 Wm. H. Haskell Co., Pawtucket, R. 1. 11 Moore, S. H. & E. V., Chicago. 55 Pawtucket Mfg. Co., Pawtucket, R. 1. 28 I. D. Steele & Sons Mfg. Co., Pottstown, Pa. 39
	W. R. Wells Mfg. Co., Ashaway, R. 1
	Green S. H., 12 Murray, N. Y
ı	Brass, Manufacturers of. Ansonia Brass and Copper Co., 12 Cliff, N. Y. 220 Bridgeport Brass Co., Bridgeport Conn. Brown & Bros., & Chambers. N. Y. 2 Cook & Wilson, Newark, N. J. 5 Davol John & Sons, 100 John, N. Y. 5 Detroit Copper and Brass Rolling Mills, Detroit, Mich. Holmes, Booth & Haydens, so Chambers, N. Y. 5 Flume & Atwood Mig. Co., 16 Murray, N. Y. 8 Eowli Mig. Co., 421 Broome, N. Y. 8 Eowli Mig. Co., 421 Broome, N. Y. 2 Waterburr Brass Co., 256 Broadway, N. Y. 3 Waterburr Brass Co., 256 Broadway, N. Y. 3 Waterburr Mig. Co., 250 Broome, N. Y. 2 Waterburr Brass Co., 256 Broadway, N. Y. 3 Brass But Hinces.
ı	alich. Roimes, Sooth & Haydens, 40 Chambers, N. Y. Plume & Atwood Mig. Co., 18 Murray, N. Y. Rome Iron Works, Rome, N. Y.
l	Scovili Mfg. Co., 421 Broome, N. Y. Waterburr Brass Co., 256 Broadway, N. Y. Waterburr Mfg. Co., Waterbury, Conn. Brass But Hinges. Tiebout W. & J. i Sand 18 Chambers, N. Y.
l	Tiebout W. & J. 16 and 18 Chambers, N. Y. 25 Brass Founders. Lunkenheimer F. Cincinnati, O. 46 McFarland Wm. Trenton, S. J. 43 Reverse Paul S. Philadelubia. 44 Reynolds Martin, Brooklyn, E. D., N. Y. 16
	Moseley Iron Bridge and Roof Co., 5 Dey, N. Y
l	Am. Brouze Works, Cleveland, O
l	Brushes, Eromwell drush & Wire Goods Co., Cincinnati, O. 12 Buckets. Pump and Elevator. Buckets. Pump and Elevator. Bowland T. E. Brooklyn, N. Y
ı	Whipple Mfg. Co., Cleveland, O., 19 Burcaer and Shore Knives. Manufacturers of Wison John. Sheffield. England
ı	Tare & Towne ang. Co., see S. ath. Philadelphia
ı	Carrier & Bollan Losers of Townsed Milson & Hubbard, Philadelphia.  Townsed Milson & Hubbard, Philadelphia.  Liggett Spring and Axie Co. Pittsburgh, Pa. 8  Scott H. C. & Son. Philadelphia, 'a. 48  Smith H. D. & Co. Plantsville, Conn. 12  The E. D. Clapp Mfg. Co. Auburn, N. V. 8  Carts — Spring Cart Co. Rushville, Ind. 10  Clausers. — March & Caster Co. Landingapolis, Ind. 10  Favon Mfg. Co. C. Ceago, Ill. 10  Ya.—Caster Co. Kew Havea. Conn. 33  Changes, Brass and Loos. 13  Bowler & Co. Cleveland, Ohlo. 5  Bowler & Co. Cleveland, Ohlo. 5  Bowler & Co. Cleveland, Ohlo. 5
ı	Caster Co. New Haves, Conn. 39 Caster Co. New Haves, Conn. 39 Caster Co. New Haves, Conn. 39
ĺ	Whipple Mfg. Co.  (1) 13
l	Haight & Clark, Albany N. Y. 9 Hammer & Co., Branford, Cona. 10 Keppleman John, Reading, Pa. 11 Elverside Foundry Works, Cleveland, Ohio. 3
ı	Charles Store Continue Co. and I there was the tra
	Full Stanley G & Co., Philadelphia
-	Eimer & Amend, 205 Third Ave., N. Y
2000	Clay Pigeous and Traps.  Clay Pigeous and Traps.  Clay Pigeous Co., Cincinnati, O
	Constant Freedo Co., Cincinnati, C. 10  Donar Bros., Bristol. Cons.  Cons. History of, Fardee A. & Co., III Broadway, N. V. 36  Cose and Spice Mills. Late Hard Spice Mills. Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Late Hard Spice Mills.  Spice S
	Lane Brotheri, Poughkeepsie, N. Y. 92 Enterorise Mfg. Co., Phitadetublis, Pa. 53 Pone, — schoonmaker, J. M., Pittsburgh, Pa. 59 Couminsis n. Ageuts. 32 Sungansee and Caripers, Manufacturers v.
	Junpaisses and Cattpers, Manufacturers of bumpaisses and Cattpers of Co., Worcester, Mass. 10 Septembers, St. Torrey Rasor Co., Worcester, Mass. 10 Septembers, St. W. Haven Copper Co., 29 Pearl, N. Y. 2 June, Cote & Co., Baltimore, Md. 3 Upor Libos. Jose & Co., Baltimore, Md. 3 Upor Libos. 20 & Bro., 292 Pearl, N. Y. 5 Cordays.
	W Haven Copper Co., 29 Pearl, N. Y. 2  Tue, Cote & Co., Baltimore, Md. 3  Fope Thos. J & Bro., 292 Pearl, N. Y. 5  Cordage.
	Elizabethport Steam Cordage Co., 48 South, N. Y., 35 Corrugated Prom. Misselev Iron Edge and Roof Co., 5 Dey. N. Y 4 Coverings, Hotter and Pipe. Chaimers Spence Co., 33 John St. N. Y

,	TI
Crucibles.	Hote
Seidel R. B., Philadelphia, Pa	Cra Fri Ru
Cutiery. Importer of.  Boker Hermann & Co., 101 Duane, N. Y.  20 Conway T. G., 88 Chambers, N. Y.  Clatworthy F. & W., 82 Chambers, N. Y.  10	Hote Box Cle
Cutlery, Manufacturers of.  Eannister A & Co. Newark, N. J	Sell Sto
Medford Fancy Goods Co., of Duane, N. Y	Kin
Dinner Pail and Lantern.  Halght Joseph, Port Chester, N. Y	Hote
Moore S H. & E. Y. Chicago, III	Heo
Pope & Stevens, 114 Chambers, N. Y	VET-
Ortifing Machines, Makers of, Clark, Sints & Co., Springfield, O. 44 Dallett Thos, R. & Co., Philadelphia, Pa. 42 E. L. Harrington, Philadelphia, Pa. 43 Feorless Funch & Shear Co., irt. Liberty, N.Y. 43 Wiley & Russeli Mg., Co., Greenfield, Mass. 25	Eas Liv Nat
Wiley & Russell Mfg. Co., Greenfield, Mass. 20 Drop Forgings. The Billings & Spencer Co., Hartford, Conn. 32 Brown R. H. & Co., Westville, Conn. 32 Drop Hammers.	Nev Sar
williams, white & Co., Moline, III	Hor
Heartley Geo. W., Toledo. O32	8ch
Edge Tools, Wakers of.  Doscher M., 8s Chambers, N. Y  Blevators, Makers of.  Clem & Morea Philodelphia, Pa	Hot
Elevators. Makers of the Morse, Philadelphia Pa. Clem & Morse, Philadelphia Pa. Crane Bros. Mfg. Co. Chicago, III	Mel Ede
Rtokes & Parrish, Philadelphia Tewksbury Automatic Elevator Co., Newark, N. J. 12 Emery and Co-undum Wheels. Vitrified Wheel Co., Westfield, Mass	Hyd Duc Wa
Union Stone Co., Boston, Mass.	Ice (
Engines, Fire.  1.a France Fire Engine Co., Eimirs, N. Y	Ice '
	Indu
Engines. Steam. Makersof. Cooko & Co 12 Cortlandt. N. Y	Inja Insp
Dunbar, R. & Son, Buffalo, N. Y	I nau
Southwark Foundry & Machine Co., Philadelphia. 43 The Cummer Engine Co., Cleveland, O. 176 The Norwalk Iron Works Co. S. Norwalk Conn. 42	Cox
Baldwin Locomotive Works, Philadelphia, Pa. 6 Brathes, Steans, Makers of. Cooke & Co., 12 Cortlandt, N. Y. Dunbar, R. & Son, Buffair, N. Y. Dunbar, R. & Son, Buffair, N. Y. Ervier, Chas, W. & Co., Philadelphia, Pa. Noteman Rotary Engine & Pump Co., Toledo, O., 44 Bouthwark Foundry & Machine Co., Philadelphia, 43 The Cummer Engine Co., Cleveland, O. The Norwalk Iron Works Co., S. Norwalk, Conn. 42 The Pusey & Jones Co., Wilmington, Del. 42 Wetherlif Robt. & Co., Chester, Pa. 43 Facings, Foundry. 44 Facings, Foundry. 45 Facings, Foundry. 46 Facings, Foundry. 47 Facings, Foundry. 48 Facings, Foundry. 49 Facings, Foundry. 49 Facings, Foundry. 40 Facings, F	Lev Lur
Am Fieing Co., ci7 W. 1cth. N Y. 30 Emerick, J. A. & Co., Philadelphia, Pa. 3 Payson J. W. & Co. 12, Reach Philadelphia, Pa. 3	Alb Bir
McNap & Harlin Mfg. Co., 20 Gold. N. Y	Brit Bur Cal Car
Enterprise Mfg. Co., of Pa., Phila, and N. Y33	Kes Kir Lea
Rose E. W. & Co., Fulton, N. Y  Rose E. W. & Co., Fulton, N. Y  **Pence** Wrought fron.  E. T. Barnum Wir- and fron Works, Detroit, Mich as  National Wire and Iroa Co., Detroit, Mich.	Mor Pho
Van Dorn Inon Woules Claustand O	Roy Roy Roy
Files, Importers of. Field Alfred & Co. on Chambers, N. Y	Sho Spr The
Montgomery & Co., 105 Fulton, N. Y	Ulat Woo
Auburn File Works, 85 Chambers, N. Y	Blai Boy Etti
Henssler Christian, Philadelphia, Pa. 41 Hiscox File Mfg. Co., West Chelmsford, Mass. 8 Johnson & Bro., I Commercial, Newark, N. J.	Lipi Smi Wai
McCaffrey & Bro., 1722 and 1734 N. 4th, Phila	lren. Her
Moss F. W., 80 John, N. Y	Lun Qui
Temple & Luckwood, 12 Platt, N. Y. 36 Union File Works, Baltimore, Md. 8 Fire Brick, Makers of, Borner & O'Brien, Philadelphia, Pa. 30 Climax Fire Brick Co., Pittsburgh, Pa. 26 Colson Chas, D., Chicago, Ili. 30 Evens & Huwurd, St. Louis, Mo. 26 Gardner drothers, Pittsburgh, Pa. 30 A. Hall Terra Cotta Co., Perth Amboy, N. J. 30 Hall & Sons, Buffalo, N. Y. 30 Kreisener B. & Sons, foot of E. Houston, N. Y. 30 Maurer Henry, 416 East zyd, N. Y. 30 Maurer Henry, 416 East zyd, N. Y. 30	Gro Heb Her
Evens & H. w. ird, St. Louis, Mo. 26 Gardner drothers, Pittsburgh, Pa. 30 A. Hall Terra Cotta Co., Perth Amboy, N. J. 30	Lea Lun Lun Moh
Kreischer B. & Sons, foot of E. Houston, N. Y. 30 Maurer Henry, 416 East 23d, N. Y. 30 Newton & Co. Albany. N. Y. 30	laron Abe
A. Hall Terra Cotta Co., Perth Amboy, N. J	Bon Bor
Un ou Minng Co. Philadelphia, Pa. 30 Valentine M. D. & Bro., Woodbridge, N. J. 30 Watson Fire Brick Co., Porth Amilov, N. 7	Cor Cox Egic
Woodland Fire Brick Co., Woodland, Pa	Hea Hea
Star Machine Works, Cleveland, O	Hub Jud Kee Lloy
Fluor Spar. Burbank B. & Co., Evansville, Ind	Lun Lun Mid
Farzes. Pertable. &cc.  Ruffalo Forge Co., Buffalo, N. Y	Nay Ogd Pler Pul
Forgings, Iron and Steel, Alker & Cromlish, Allegheny, Pa	Wal
Emerick J. A. & Co., Philadelphia, Pa. 3 Furnace Holsts. Stokes & Parrish. Phila., Pa. 42	Will Whi
Furnaces, Makers of, Richmond & Potts, 119 S. 4th. Phila., Pa	Cha Iron Ban
Grasware. Chemical. Whitall, Tatum & Co., New York & Philadelphia 3 Graphite Paint. Jos. Dixon Crucible Co., Jersey City, N. J24	fron Cro
Grate Bars. Creswell David S. Philadelphia. Pa	Abb Hub Lee
Sai mander Grate Dar Co., 1to Liberty, N. Y39  [Frindstones. Lombari & Co., Boston, Mass	Lun Rici Ros
Wood Walter R., 281 and 285 Front N. Y 33 Worthington & Sons, Cleveland, O. 33	Wes
Gunbewder, Makers of. Laflir & Rand Powder Co. 29 Murray, N. Y	Jere Left Woo
Guns, Pistols, &c. Kittredge B. & Co., Cincinnati, O	Iron Mor
Hartford Hammer Co., Hartford, Conn	Lant
Union Mrs. Co., co Chambers, N. Y	Lath
Handles (Hickory).	Law Cha
Jennies, T. ol. Jennies, N. Y	Lemo Dear Kys
Anraware Commission Merebauts. Field Alfred & Co., os Chambers, N. Y	Und Ripl
Liovd, Supplee & Waiton, 625 Market, Phila	Lock
fardware Importers. Boker Hermann & Co., tot Duane, N. Y	Dur Hill Qua Ron
Field Alfred & Co., og Chambers, N. Y., of 1 ordwarer J. b. I. d. vs. Wheeler, A. W., Chicago, III. Ardwarer Manufacturers. Enterprise Mfg. Co., Phila. Livyd, Supplee & Walton, ocs harket, Phila., Pa., 25, Miller's calls Co., 74 Chambers, N. Y. Sargent & Co., New York and New Haven, Conn., 18 Shepard Hurlware Co., Buffalo, N. Y. Stanley Works, New Birtain, Conn., 35 Strente Works, New Birtain, Conn., 35 Trenton Lock & Hardware Co., Treaton, N. J., 16 Union Mfg. Co., og Chambers, N. Y., 7 Whippie Mfg. Co., Cleveland, O., 13	Trer
Enterprise Mfg. Co., Phila	Lubr
Sargent & Co., New York and New Haven, Conn18 Shepard if triware Co., Buffalo, N. Y	Maci Adt Blis
Union Mfg. Co., 99 Chambers, N. Y	Pod Fors Gar Peer
Hardware Sbecialties.  American Machine Co., 128 Chambers, N. Y	Pitti Pure Belle
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inj Mnives.  Hiram Holt & Co., East Wilton, Me	Blais F. B John
Lowe & Watson, Bridgeport, Conn	Kins Selle Wiel

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Heisting Engines, Makers of.  Crane Bros., Mfg. Co., Chicago, III	D D M N N N
Box Alfred & Co., 42 Green, Phila	P P Me B
Carr & Hobson, 47 Cliff, N. Y.       16         Kimball C. W. & Co., Chicago, Ill.       26         Whelpieg R. H., Chicago, Ill.       32         Holats, Portable.         Dunn J. Cleveland, Ohio.       41	Mi Mi W
Hooks (Cotton & Baie.) New York Handle & Mallet Works, 446 E. Houston13 Horse Hay Forks. Waldron & Sprout, Muncy, Pa	Min Ja Ma
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Horse Hasps and Files. Heller & Bro., Newark, N. J	Mo R Si Nn C
Schoeuberger & Co., Pittsburgh, Pa	J. O. R. Sc
Hvdrants, &cc.       10         McLean John, 300 Monroe, N. Y.       10         Eddy Valve Co., Waterford, N. Y.       41         Hydraulic Jacks.       9         Dudgeon Richard, 24 Columbia, N. Y.       9         Watson & Stillman, 470B Grand, N. Y.       43	Na Pi
Roebuca S. & Co., 16s Fulton, N. Y	No.
Heartley Geo. W., Toledo, O	Nu E N P
Fairbanks & Co., 311 Broadway, New York	011 Cl
Tron. (Manufacturers' Agents.)  Cox. Jr., Justice & Co., 333 Wainut, Phila.  Froment Frank L. 112 John st., N. Y.  Hoffman J. W. & Co., 268 S. 4th, Phila.  Levis Henry & Co., Philadelphia, Pa.  Lundell Chas. G. (Swedish), Boston, Mass.  6	Pai Pai Pai H
Pob. Manufacturers of. Albany & Renasslaer Iron & Steel Co., Troy, N. Y. 35 Birmingham Rolling Mill Co., Louisville, Ky., 6 Birmingham Rolling Mill Co., Louisville, Ky., 6 Birteon Iron and Steel Co., Cheveland, O., 6 Burden Iron Company, Troy, N. Y. Calumet Iron & Steel Co., Chicago, Ill., 2, 2 Carregie Bros. & Co., Limited, Pittsburgh, Pa., 37 Keystone Loiling Mill, Limited, Pittsburgh, Pa., 4 Kirsnarfick & Co., Pittsburgh Pa., 4 Leavitt, C. W., 16t Hroadway, N. Y. Leonard John, so West St., N. Y. Montour Iron & Stees Co., Danville, Pa., 37 Phoenix Iron Co., 30 Wainut, Philadelphis, 5 Phoenix Iron Co., 30 Wainut, Philadelphis, 5 Rome Merchaut Iron Co., 50 Wainut, Philadelphis, 5 Rome Merchaut Iron Co., 50 Wainut, Philadelphis, 5 Rome Merchaut Iron Co., 50 Wainut, Prince, 20 Rome Merchaut Iron Co., 50 Wainut, Philadelphis, 5 Rome Merchaut Iron Co., 50 Wainut, Philadelphis, 5 Rome Merchaut Iron Co., 50 Wainut, Prince, 50 Rome Mer	Per Es Per H
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Roane Iron Co., Chattanooga, Tenn.  Rome Merchant Iron Mills, Rome N. Y Rowland James & Co., esp N. Delaware ave., Phila. S Rowland Wm. & Harvey, Philadelphia.  44 Shoenberger & Co., Pittshurgh, Pa.  5pringfield (ron Co., Springfield, III.  65 The Passaic Rolling Mill Co., Paterson, N. J.  66 Ulster Iron Works, oo Broadway, N. Y.  67 Wood Alan & Co., Arch., Philadelphia.	Je Qi Si
Ulster Iron Works, oo Broadway, N. V.  Vood Alan & Co., Arch. Philadelphia.  Versus Brokers.  Blak 'y & Walbaum, Philadelphia, Pa  Roynton Geo. A Wall N. V.	Pig Pig Pig
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Jersey City Galvanizing Co., Jersey City, N. J. 4 Lefterts, Marshall & Co., of Beskman, N. Y. 4 Wood & D. & Co. Pittsburgh, Pa., 4 Fron. Steel and Nalls. Morris, Wheeler & Co., 14 Cliff, N. Y.	Rei Rei Rei
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Machinery, Adt John. New Haven. Conn.  Bliss, E. W., 167 P;ymouth, Brookiyn.  42 Dodge, Heiler & Lyons, Newark, N. J.  5 Forsauth S. C. & Co., Manchester, N. H.  42 Garvin E. E. & Co. 190 Centre, N. Y.  42 Peerless Punch and Shear Co., 28 W. Dey, N. Y.  5 Pittsburgh Mfg. Co., Pittsburgh, Pa.  41 Purdy Machine Co., Cleveiand, O.  42 Sellers Wm. & Co., Phila. and 79 Liberty, N. Y.  5 Stote Flexible Shaft Co., Limited, Philadelphia, 12 Stow Flexible Shaft Co., Limited, Philadelphia, 12 The Stiles & Parser Press Co., Middletown, Conn. 11 Westherill Robert & Co., Chesser, Pa.	Sav Sav Sca Bu
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1	Metals.  Detroit Copper & Brass Rolling Mills, Detroit, Mich. 2 Dickerson, Van Dusen & Co., zo and 3; Cliff. N. V., 2 Merchant & Co., Philadelphia, Pa.,, 26 Naylor & Co., og John, N. V.,, 26 Naylor & Co., og John, N. V.,, 26 Septime, Dage & Co., Cliff. bet, John & Fulton, N. V., 2 Phoenhor Bronze Smelting Co., Limited, uz Arch, Philadelphia	Shaf Tay Shaf
73	Northrop A. C., Waterbury, Conn	Poo
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6	Metallurgists.  Booth, Garrett & Blair, 919 Coant, Philadelphis 5  Britton J. Biodgett. 330 Welnut, Philadelphia35	Shea
5	Mills.—Newell's, 31 Cortlandt, N. Y	Wat
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3	Mineral Wool Co., 16 Cortlandt, N. Y	Nor Shee
3	Miners' Candles, Makers of, James Boyd's Sons, to and 12 Franklin, N. Y	Ship
5	Molding Machines. Drummond Mfg. Co., Louisville, Ky	Show
6 5 2	Emerick J. A. & Co., 1046 Beach, Philadelphia, Pa., 3 Faxson J. W. & Co., 514 Beach, Philadelphia, Pa., 5 Schemectady Molding Sand Co., Schemectady, N.Y., 7 Whitehead Bros., 515 and 517 W. 15th, N. Y30	Clar Fif + Hur
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8	Riplew Mrg. Co., Unionville, Conn	Skat
2	Nalia.—E. & G. Brooke Iron Co., Birdshaw, Pa	Sutt Sur: Gra; Mar
1	Fuller Bros. & Co., 130 Greenwich, N. Y. J-flerson Iron Works, Steubenville, O., 29 Oxford Iron Co., 8; Washinston, N. Y. Rowland Jas. & Co., 250 N. Detaware ave., Phila., 5 Schoenberger & Co., Pittsburgh, Pa.,	Mar Ree
8	Nails, Cu <sup>2</sup> .—Blank n-hip, R. E., Richmond, Va 7 Ross W. K., 97 Chambers, N. Y. 4	Berg
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0 3	Nickei l'intera' Supplies. Hanson, Van Winkle & Co., 92 Liberty, N. Y 28 The Zucker & Levett Chemical Co., 540 to 541 West 10th, N. Y	Cant
3	Norway Shapes, Rollers of.	Row
7	Norway Shapes, Rollers of, Naylor & Co., 99 John. N. Y. Rowland Wm. & Harvey, Frankford, Philadelphia 44	Diet Dud Stea
2	Allentown Rolling Mill Co. Allentown. Pa 5 Empire Nut Co. Pittsburgh, Pa 5	MeG The
5	New Haven Nut Co., Westville, Conn. 41 Parkes Thos., Buffalo, N. Y. 33 Rhode Island Fool Co., Providence, R. I. 28	Steel
2	Nuts. Bolts. etc., Makers of.  Attent-wn Rolling Mill Co. Allentown. Pa. 5  Empire Nut Co. Pittsburgh, Pa. 3  New Haven Nut Co., Westville, Conn. 41  Parkes Thos., Burfalo. N. Y. 33  Rhode Island Fool Co. Providence, R. I. 33  Russell. Burdsall & Ward. Port Chester, N. Y. 44  Standard Nut Co. Pittsburgh, Pa. 41	Steel Abb
0	Oil Stones.  Chase Geo. torth and Harlem River. N. Y	Hob Mon
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200	Patent Solicitors.  Howson & Son. Phila., and Washington, D. C	Bub
1	Knight H. W., Seneca Falls, N. Y.	Jone Steel Alba
5	Pens. Steel. Esterbrook Steel Pen Co., 26 John, N. Y	Cas- Chr
-	Perforated Sheet Merals. Harrington & King Perforating Co., Chicago, Itl., 26	Clev Clev Co o
1	Phosphor Bronze. Phosphor Bronze Smelting Co., Limited, 512 Arch Philadelphia	Gau Jo Jers
1	Pierson & Co., 24 Broadway, N. Y	Line
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	Bond, Parsons & Co., 151 John, New York	Pen Phil Row
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-	Pipe Cutters. Panecast & Maule, 243 & 245 53d st., Philadelphia33	Star
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	Pipes, Fittings, etc., Makers of, McNab & Harlin Mfg, Co., 56 John, N. Y.	Steel Car
	Pipe. Water and Gas. Makers of. McNeal A. H., Burling on, N. J. Mellert Foundry and Machine Co. Limited Base.	Steel
	ing. Pa. 33 Reading Iron Works, Philadeiphia, Pa. 6 Wood R. D. & Co., so Chestnut. Philadelphia. 8 Wyckoff A. Elmira, N. Y. 13	Wild
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	Buck Bros., Milibury, Mass	Tuck
	Planers, Brettell Geo. E., Rochester, N. Y 9	Taca
	Plated Ware. Hall, Elton & Co., 47 E. 13th. N. Y.	Cru: Phil Tape
	Plows. Chamberiain Plow Co., Dubuque. Iowa 26 Plumbers' Materials. Manufacturers oj.	Carl Man Wile
	Evernart Jas. M., Scranton Pa 41	Tea:
		Testi Olse Riel
	Presses. Power, Makers of, Beecher & Peck, New Haven, Conn. 38 Bliss E. W., 167 Primouth, Brooklyn. 42 Merriman A. M., West Meriden, Conn. 42 Peerless Punch & Shear Co., 38 W. Dey, N. 4. The Stilles & Parker Press Co., Middletown, Conn., 44	Tire Ilin Litt
	Printers.—Gles & Co. Middletown. Conn. 44  Printers.—Gles & Co	Ame
	Pulleys. Me lart Pat. Pulley Co., St. Louis, Mo.	D. S.
	Pumps. Makers of.         5           Douglas W. & B., Middletown. Conn.         7           New England Butt Co., Providence, R. 1         38           Silver & Deming Mfg. Co., Salem. 0         7           Union Mfg. Co., 96 Chambers, N. Y         7	Wol
	Silver & Deming Mfg. Co., 96 Chambers, N. Y	The
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	Fox a Drummond. 8 Wall. New York 4 Jesup F. W. a Co., cy Liberty, N. Y 4 Metcatf Paul & Co., Pittsburgh, Pa. 35 L. M. sumsey ufg. Co., St. Louis, Mo. 40	Lud
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	Rock Brenkers. Blake Crusher Co., New Haven, Conn	Lew Lew
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1	Rules. Manufacturers of Stanley Rule and Level Co., 29 Chambers, N. Y 9	Wire
	Mad IronsEnterprise Mfg. Co., Philadelphia33  Sand and Emery Paper, Makers og., Baeder, Adamson & Co., 67 Beekman, N. Y29	Wir
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	Saws, Makers of. Andrews E. & Sons, Williamsport, Pa	Gary
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	Little Chas. E., 50 Fulton. N. Y	Work Wire E. T
	Saw Vises -Seneca Mfg. Co., Seneca Falls, N. Y., to	Bron
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	Bufalo Scale Co., Buffalo, N. Y. 44 Chadilion John a Sons, qu Chiff, S. Y. 9 Ossen Linius & Co., Philadel hita. 25 Riehle dros., Philadelpaia, Pa. 29	Wire A. F
	Scrapers, Road, Ansila F. O., Skaneateles, N. Y. Alsourne & Jacobs Mr. Co., Columbus, O. 36 The York Mr. Lo., Limited, Portsmouth, O. 27 Screws, Masers of.	Wire
	The York Mrg. to, Limited, Portsmouth, O 27  Screwm. Makers of, Billerbeck J., 11th and Venango sts., Philadelphia 13	Haza Lesu
	Billerbeck J. 17th and Venango sta. Philadelphia 13 Bruce Geo. W. 1 Platt, N. Y. 9 Miles F. S. 50, Quarry, Phila. 13 Philadelphia Screw Co. Philadelphia, Pa. 29	L. M. Wren
	Screw Cutting Machinery.	Coes

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Roythe stones,
Shaft Carriers. Taylor & Challen, Birmingham, Eng
Shatting. Makers of. Cresson Occ. V. Philadelphia, Pa
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J. Wiss & Sons, Newark, N. J
Sharma Iwan
Eureka S ear Co., Philadelphia, Pa
Northron A & Co. Pittshurgh Pa
*heet Zinc. Illinois Zinc Co., Peru, III
Shovels, Spades and Scoops.
Shurrers. Revolving St. et. Clark, Bunnett & Co., 162 and 164 W. 27th, N. Y 27
Hunter Sifter Mfg. Co., Cincinnati, O
Wilton Sieve Co., Limited, Milton, Pa
Dame. S'odim'rd & Kendali, Boston, Blass.   10
Gray Robert, Cleveland, O
Speiter. Bergen Port Zinc Co. 13 Burling Silp. N. Y 3
Manning & Squier, 114 Liberty, N. Y
Kittedge R. & Co., Cincinrati, O.  Spring Hinges. Van Wa oner & Williams, & Beekman, N. Y
Canton Spring Co., Canton, O
Rowland wm. & Harvey, Frankford, Phila 44
Dieneit & Eisenhardt, Philadelphia, Pa
McGowan John H. & Co., Cincinnati, O.,
Curtis Regulator Co., Eoston, Mass
Steel impositers. Abbott lere & Co. New York and Boston
Carr J. & Kiley 30 Gold, N. Y
Steen Traps. Curtis Regulator Co. Boston Mass
Hubbard Chas., 46 Cliff, N. Y
Jones B. M. & Co., 11 and 13 Univer, Boston, Mass .35
Albany & Rensselaer Iron & Steel Co., Troy, N. Y. And ison, Du Fuy & Co., Pittsburgh, Pa
Cas-1dy & Co. Pittsburgh Ps. 6 Chrome Steel Works, Brooklyn, N. Y. 56 Cleveland Crucible Steel Co. Cleveland, O. 77 Cleveland Rolling Mill Co. Cleveland, O. 77 Cleveland Steel Works, Danville, Ps. 36 Gautier Steel Department of Cambras 100 Cc. 37 Jersey Cliv Steel Works, Or John, N. Y. 36 Linden Steel Co. (Ld.), Pittsburgh, Ps. 37 Mildvale Steel Co., Nicetown, Phila, Ps. 66 Moss F. W. 80 John, N. Y. 50 Moss F. W. 80 John, N. Y. 50 Naylor & Co., 90 John, N. Y. 50 Pennsylvania Steel Co., 68 8, 46, Phila. 6 Philadelphia Steel Forge, Philadelphia, Ps. 66 Philadelphia Steel Forge, Philadelphia, Ps. 66
Co op rative Iron and Steel Works. Danville, Pa. 26 Gautier Steel Department of Cambria iron Co.
Johnstown Ps. 3330 Jersey City Steel Works, oa John. N. Y
Midvale Steel Co., Nicetown, Phila., Pa 68:6 Miller, Metcalf & Parkin, Pittaburgh
Naylor & Co., oo John, N. Y
Rowland wm. & Harvey, Frankford, Phila 46
Smith, Sutton & Co., Pittsburgh, Pa 36
Standard Steel Works, Philadelphia, Pa
Steel, Phert.
gheny Co., Pa
Steel. Tool — Brown & Co., Pittsburgh, Pa
Stocks But Dies.
Wiley & Russell MTZ. Co., Greenfeld, Mass
Stove Repairs.—Metzner W. C., Chicago, Ill
Tucker Alarm Till Co. Indiananolis, Ind. 10 Supp. ires for Rolling Mills, &cc. Carpenter G. B. & Co. Chicago, Ill. Theras. — American tack to. rannaven. Mass. 24 Cobb & Drew, Plymouth. Mass. 12 Grundy & Dissoway, 165 Greenwich, N. Y. 12 Phillips E. & Sons, South Manover. Mass. 17 Taps and Dires. Carpenter J. M., Fawtucket. B. I. Manning, Maxweli & Moore, 111 Liberty, N. Y. 42 Wiley & Russel Mix. Co. Greenfeld, Mass. 26 Furris R. C., Philadelphia, Pa. 35 Testing Machines. Olsen Thius & Co. Philadelphia, Fa. 25 Richié Bros., Philadelphia. 29 Tire Benders. 29 Tire Benders. 29 Tire Benders.
Grundy & Disosway, 16; Greenwich, N. Y
Carpenter J. M., Fawtucket. R. I
Tea and Coffee Pots. Purvis R. C., Philadelphia, Pa
Testing Machines. Olsen Tinius & Co., Philadelphia, Pa
illinets Iron and Bolt Co., Carpentersville, 111
Tire Ups Hers. Little Giant Mfg. Co., Millport, N. Y
Tools, Sienin and tres Fitters .
D. Saunder's Sons. Vonkers. N. V 10 Eaton, Cole & Burnham Co., \$3 John, N. Y 41 Transem 14fters. Wollensuk J. F. Chicago, III. 24
Traveling Cranes. The 1 ale & Towne Mfg. Co., Stamford, Conn
Trimmer, Tree and Hedge. Lee E. S. & Co., Rochester, N. Y.
Rights Bros. oth. above Master, Phila
Tube Mcrapers. Chalmers Spence Co., 23 John, N. Y
Charles H. Besley & Co., Chicago, Ill
Tubes. Seamless Drawn Copper. Bri gewater iron Co., Bridgewater, Mass
Merrill Brow, 25 First, Brocklyn, E. D
Morse Twist Drill & Mach. Co N. Bedford, Mnor 18 Vaives, tias, Water and Steam.
Lugiow Valve Mfg. Co., Troy N.Y
Jenkins Bros., 71 John. N. Y.  Vapor Torches.  Loomis T. R., Caz novia, N. Y.  * * ** ** ** ** ** ** ** ** ** ** ** *
Howard fron Works, Buffalo, N. Y 26 Prentiss Vise Co. 23 Dey, N. Y 23
Seaman & Co., ulliport, N. J.
Sidney Shepard & Co., Buffalo, N. Y
National Meter C ., 51 Chambers, N. Y
Leffel James & Co., Springfield, O.,
W neels, it ultrond. Bowler z Co. Cleveland, O. Whitney A z Sons, Philadelphia. W netsione Pike A. F., Pike station, N. H
Colgate Robt. & Co., 287 Pearl, N. Y
White Lead. Colgate Edit. Soc. 287 Pearl, N. V. 28 Colgate Edit. Soc. 287 Pearl, N. V. 28 Lewis John I & Stron. 20 S. Front Phila. Pa. 28 Salem Leed Co. Salem. Mass. 25 Window Clemers. 25
Perfection Window Cleaner Co., Chicago, Ill
Window Supports. Hugunta R. B., Hartford, Conn.
Wire Cio h. Cleveland, O
Harrison Wire Co., St. Louis, Mo
Mire, Manufacturers of, American Wire Co., Clevelard, Ohio
Johnstown, Pa
Perkins & Choste, 23 Nassau, N. Y
Gutter Steel Department of Cambria Iron Co- Johnstown, Pa. 1983. Howard & Morse, 45 Fulton, N. Y. 2 Perkins & Choate, 23 Nassau, N. Y. 37 Prentiss ueo, W. & Co., Holyoke, Mass. 2 Trenton Iron Co., Trenton, N. 2 Washburn & Moen Mrg. Co., Worcester, Mass. 2 Woitman & Wickerte, St. Louis, Mo. 3 Worcester Wire Co., Worvester, Mass. 2 Wire 4-Soods, Manufacturers, o.
Bromwell Brush & Wire Goods Co., Cincinnati, O 17 Gilbert & Bennett Mrg. Co. 222 (real ). 12 The Fred J. Meyers Mrg. Co., Covington, Kr. 35 National Wire and Iron Co., Defrott. Mich. 32
National Wire and Iron Co., Detroit, Alch 3 The Wire Goods Co., woreester, Mass
The Wire Goods Co., Worcester, Ma-s. 1. Wire Natis.—dP. Nail Co., Claveland, O., 17 A. Field & Sous, Taunton, Mass. 17 Wire Rods. 17
Wire Rods. Leslie A. C. & Co., Montreal, Can
Leslie A. C. & Co. Montreal, Can. 27 Wire Hope, From and Sicer, Makris . Broderick & Bascom, St. Louis, Mo. 2 Hazard Mcs. Co., Wilkesbarre, Fra. 2 Leschen A. & Son, St. Louis, Mo. 2 Wood-Working Machinery, L. M. Ramsey Mfc. Co. St. Louis, Mo. 22
Wood-Working Machinery.  I. M. Rumsy Mig. Co., St. Louis, Mo
Bemis & Call Hdw. & Tool Co., Springfield.Mass 29X 3 Coes A. G. & Co., Worcester Mass
WringersAlexander T Hoston, Mass 7

# NEW YORK WHOLESALE PRICES, May 30, 1883.

METALS.	All Mandrel Drawn Tubes under % in. 25 cents per
	pound advance.
IRON.—DUTT. Bars. I to 1460. \$\Pi\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Plain
Poon and Scroll, 15 to 15 c. 7 b; provided, that none	Scotch and Extra Patterns
of the above Iron shall pay a less rate of duty than 3s per cent. Pig. 37 W ton; Polished Sheet. 30. W 25;	4 Per cent
Wrought Scrap, \$8 \(\pi\) ton; Cast Scrap, \$6 \(\pi\) ton. Rail-	Scotten and Extra Patterns   90
American from	12 Per cent 6.20
Foundry, No. 1x	16 Per cent
Gray Forge	is Per cent
Eglinton	STEEL, -Dury: Bars, Ingots, Sheets and Colls,
Cornbroe	above 11, 30 % b) over 11, 3140 * b, and 10 % ad val.
Shotta \$\psi\$ ton 24.00	Railway Bars, ride ? B. Railway Bars, in part Steel, re ? B. Provided, that Metal cemented, cast or made
Gartsherrie	from Iron by the Bessemer or pneumatic process, of
Langioau 34.50	American Cast Steel.
Rails.	For American Steel see quotations under heading of
Old Rails 1s	English Steet.
	Extra Cast
Wrought, # ton, from ship and yard 23.40 @ 26.00 Bar Iron from Store. Common Iron	Circular Saw Plates \$ 3 16c
Common from Store.	Swaged, Cast # 180
% to 1 in. round and square } # B 2.16 @ 2.200	Blister, 1st quality B 15%0
Refined iren:	German Steel, Best B b 110
% to 2 in. round and square } # m \$3.30 @ 2.400	3d quality h 90
z to o in.x'4 and 5-10 # B 2.55 @ 2.650	Sheet Cast Steel, 1st quality # h 15140
Reflued Iren:  4 to 2 in. round and square.   5 in 2 in. x\( \) to 5 in. x\( \	ad quality
Nerway Nati Rods	LEADDUTY: Pig. \$2 \$ 100 \$ Old Lead, 1/40 \$ \$
Sheet Iren. Common R. G. American. American.	American Cast Steel. For American Steel see quotations under heading of Pittaburgh. For American Steel see quotations under heading of Pittaburgh. Best Cast. \$\Pi\$ 15\%c Extra Cast. \$\Pi\$ 15\%c Extra Cast. \$\Pi\$ 16\%c Circular Saw Plates. \$\Pi\$ 16\%c Round Machinery. Cast. \$\Pi\$ 16\%c Round Machinery. Cast. \$\Pi\$ 16\%c Round Machinery. Cast. \$\Pi\$ 16\%c Best Double Shear. \$\Pi\$ 16\%c Berman Steel, Best. \$\Pi\$ 10\cdot d German Steel, Steel, st quality. \$\Pi\$ 16\%c German Steel, st quality. \$\Pi\$ 16\%c German Steel, S
Common   American	Bar
\$1 to 24 \$7 to 3540 4540	Tin Lined Pipe
25, to 26 # 15 4 6 5 6	Shot Drop 20. Buck, 80
₩ D 4140 5140	Chilled Shot80
Galvanised to to 20	N. P. U
Galvanized, 21 to 24 # 3 5)40 7)40 Galvanized, 25 to 25 # 3 0 0 8 0	A. 28c :B. 25c : C. 14. FIN.—Duty. Plates, Sheets, Tagger and Terne, 1.10
Galvanised. 27 9 3 9%0 8%0	₩ m; Electro-galvanized Plates, 2c ₩ m; Manufac-
Patent Planished A P D 10%c B. 9%c	Block and Pigs free. Banca, subject to duty of 10
American Cold Rotled	Banca W n solde
COPPERDUTY: Pig. Bar and Ingot, se; Old Cop-	Stratis # b22 c English # b22/40
which Copper is a component of chief value, 45	TIN PLATER.
	I C 10X14   PrimeCharcoal
SHEATHING BRAZIERS COPPER, BOLTS, &C.	Second quality
ft. and o er # D	I C 12X12 Prime Chareoai 6.50
Braziers' Copper, ordinary sizes, under 16 os.	I X 14X20 Prime Charcoai 7-75 @ 8,00
Braziers' Copper, 10 oz. and 12 oz., # sq. ft # 1 340	Second quality
Circles less than 84 in. in diameter	D U 1236x17, Prime Charcoal 5.75
Circles #4 in. diameter and over # 3 36c	Por each additional X add
I ocomotive Fire Box Sheets 300	COKE TIN PLATE.  Best. Ordinary.
Bolt Copper B 300	I C 10X14 } \$5.50 \$5.15 @ 5.40
No Copper is Sheathing except 14x48 inches, and not	IC 13X13 5.75 5.40 @ C.50
Brazier' Copper, ordinary sizes, 16 ez. per sq. ft. and o er # b. ft. ft. ft. ft. ft. ft. ft. ft. ft. ft	C 10X14   PrimeCharcoal   \$6.57 (86.59)
TINNING.	I C 14×20 \$5.37% @ 5.50 5.25 5.12%
All other size Sheets, 2nd F sq. ft.	I C 20x28 10.75 @ 11.25 10.50 10.00@ 10.25
Aherts 14 x 48	I C 20X200 14.00
O'REILE PATENT FLANSHED COPPER.—Pet.  14 27d 16 oz. and heavier. # B 370 By the case # B 360  19 os. and lighter	BOLDER-6 & 56.
19 08. and lighter	Extra
Botter Nines.	No. I
24 and 16 oz. and heavier. W h 390 By the case W h 38c And all sizes not over 20 in. wide.)	
24×48&30×50.	American cash
14 and 16 os. and beavier	Sheet Cook
BRASS.	Sheet, Open
rown & Sharp's Gauge the Standard for Metals.	Paper Stock, &c.
Pown & Sharp's Gauge the Standard for Metals. Old English Gauge the Standard for Wire. BRASS MANTFACTURESS' PRICE LIST.—dis. 30 %.	
Cash prices for Roll and Sheet Brass. For less quan-	(Dealers' Selling Prices.) Cents # 3
ties than 100 hs add 30. P b.	White ShirtCuttings, We I
All Nos. not thinner than No. 28, wider than 21%.,	White Shirt Cuttings, No. 2
	Mill Assorted Whites. 14 5 45 City Whites. No. 1 47 6 47 6 47 6 6 6 6 6 6 6 6 6 6 6 6 6
	New Seconds Hight
not water than 11 inclusive, and widths over 14 to 20 in, inclusive, and widths over 14 to 20 in, inclusive, and widths over 25 to 30 in, inclusive, and widths over 25 to 30 in, inclusive, and widths over 25 to 30 in, inclusive, and widths over 25 to 35 inclusive.	Unbleached Muslims 54 54 54 54 54 54 54 54 54 54 54 54 54
in. inclusive.	New Seconds dark
clusive	Linen Canvas, No. 1
Sheets 24 x 48. and all sheets cut to particular sizes	Seconds, City No. 2
and lengths under 3c in., in width wider than 2 in. 37c Printers' Rules	Manila Hope 70 @ @
Printers' Rules. 450 Sheets wider than 50 in and under 40 in. 470 40 in. and over 500	Manila Rope, Tarred
Circular Sheets, in diam. from 4 in. to 14. inclusive 40c	Gunny Bagging, No. 2 13(6)
0 OVER 14 1 30, 1 450 1 1 20 1 30, 1 450 1 4 30 1 40, 1 550 1 4 5 1 40 1 40, 1 550	New Seconds dark
44 40 40 40 40 40 40 40 40 40 40 40 40 4	Tar Shakings 2 2 2%
LOW BRASS.	Tar Shakungs. 2 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
our cents F m more than High Brass.	White Shavings, No. 2, soft. 314 @ 334
In Bars	Mixed shavings, part white 214 3
Platers' or Gold Metal   In Bars. 48e   Sawed . 50   Planed or Polished . 54c	Bolid Stock
FOR SLITTING.  Metal, in width 1 in. to % in. to No. 28, inclusive, 10 P m	Book Stock, No. 1, light
agyance.	Pure Manilas and Hordwares
Metal, in width 2 in. to 1 in. thinner than No. 28, 20 ₩ B advance.	Leuger and writing 3 34 80 34 80 80 80 80 80 80 80 80 80 80 80 80 80

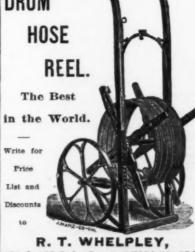
a width zin. to % in. thinner than No. 28, 30 🔻 🖪 in width 16 in. to 16, inclusive, not thinner than

e > B advance. width % in. to 4 thinner than No. 28, 50 > B nce. ¼ in. in width and less, for \$ 5 advance. the above widths cut to particular lengths, add

			The same of the sa
Pair	its.	Oils.	Azc.

advance.	Paints, Olls, &c.
Metal, if in. in width and less, roc ? B advance. Any of the above widths cut to particular lengths, add	Waters
70 % B.	
The second secon	
Market Metal. Wire	Black Ivory Drop, fair
GERMAN SILVER MARKET METAL AND WINE 4 per cent., 13 inch to No. 36	Black Point in oil keep 8e aunt'd cans re
6 6 6 6	Blue Prussian, fair to best
g 41 11 61	Blue Prussian, fair to best, in oil45 @ 550
g as as as as as a large state of the state	Blue Chinese dry700
German Silver Sheets Gve 12in, wide and weighing	
more than 10 B., \$2 8 B. Advance 2c. for each additional inch in width above	Brown, Van Dyke
ra in, and se, w h on each No. Thinner than Nos. 26 to	Green, Chrome 15 @ 23C
* inclusive.	Green, Chrome. in oil
All German Silver thinner that No. 36 is Platers', at sec. Fr auditional.	Green, Paris in oil
Agrman Silver Scrap, one-half less than not price of	Iron Palat, Bright Red B m 2/40
12 in. Market Metal. German Silver Turnings, Filings	Iron Paint, Brown B to 1590
and Chips, half the price of Scrap.	Iron Paint, Purple
BRASS AND COPPER WIRE.	Iron Paint, Ground in oil, Red # 2 5160
Gild's and High Brass. Low Brass. Copper.	Iron Paint, Ground in oil, Brown # 1 5190
Yo, c to sc	Brown   Spanish   15c
\$0.21	Orange Mineral
80 10 47	Red Lead, American
NO.25	Ked Venetian Eng.; dry \$1.65 @ \$1.70
No.25 43 -47 -53	Red Lead, American   70   70   70   70   70   70   70   7
No. of 14 10 166	Rose Pink 106 13c Sienna, American, Raw, powdered 4c Sienna, Burnt, powdered 4c Sienna, Burnt, in oit 10 2 10 2 20c
No.27	Sienna. American, kaw, powdered
NO.2955 .59 .66	Sienna. Burnt, powdered
\$0.29.	Sienna, kaw
No.31	Umber, Burnt, powdered 6 8c
No.33	Umber, Burnt, in oil
No.34 74 .78 1.03	Sieuna, Buria, in Ou   10 @ 10 @ 200     Sienna, Buria, powdered   1 @ 15 @ 200     Cimber, Buria, in Oil
No. 34	Vermition, Chinese
Flat Square and Half-Round Wire 50 ₽ B advance on Round Wire	Vermition, Chinese
Fancy Wire not less than roc & & advance on Round	Vermition American, Common150
Wiltre.	White Lead, American, pure in ou
1 rass Rods, No. 8 and larger, not less than 2 feet	White, Paris, English, primein bois, 2 6 2 c
engths, 48c. Wire straightened and cut smaller than No. 8 and	Yellow Ochre, French 1.75 T
not less than 2 feet lengths, 430. Wire and Rods less than 2 feet lengths, special rates.	Yellow Ochre, French, in oilasstd cans, iic; kegs, se H Yellow Ochre, Vermoatin casks, iic; fe
Wire and Rods less than a feet lengths, special rates.	Yellow Chrome. 176 276 Yellow Chrome, In oil. 14 6 18 2 50 Zinc White, American No. 1, 18 oil. 96 Zinc White, American No. 1, 18 oil. 96 Zinc White, French ("arts) dry. 8 6 100 Zinc White, French ("arts) dry. 10 6 117
Twelve cents per h extra for spooling on a k spools	Yellow Chrome, in oil
MISCELLANEOUS.	Zine White, American No. 1, dry
No 36.  Brass Vall Ears	Zine White, French ( ris) dry
BCRAF -Net. 43	Zine White, French. in oil
High Prass Scran	Ulis. Linseed Raw, in casts and bois
Low Frans Scr. D	firmers Bested in nacha and blite see G.C.s.
Gilding	Linseed, Calcutta590
Terms-Not cash interest to be added after thirty	Bleached Whale Palose
days	Linseed Bolted in Casar and donated get up occurs through the control of the cont
TUBING.—dia 30 %. # B	Signal
alu to No se inclusive above & in. to 3 in	
Pla n above 1 in	No. 1 Entre
	Drillingκe
Nos4. 25, 20, four cents advance on List for each	Miners' Oil
Number.	
Fa. u. & meh	Tallow
Fig. 10, Q inch	Neats1005
Att den trei Drawn Tubes, 5 cents advance on List	Machinery 40°
Prices.	Sundries
English, Scotch and Extra Patterns Fancy Tubing	Engine
English, Scotch and Extra Patterns Fancy Tubing	Asphaitum Egyptian
Tubing hawed or Cut z to 4 feet fong, z cents ad-	Chair
vance on that	Chalk Block
vance on List. Add two cents, 16 cent for each additional cutting under a feet	Asphaitum Egyptian Sec of Benzine Falso Tic Chaix Chaix Dryer, a Patent Am'n Ass't Cans, oc ; kee 7: 5 rostings
COOK 1 (000)	**************************************

	Glaziers' Points, Zine	******	******		Re
37	Gum, Copal. Gum, Damar Gum Shellac, English, Gum Shellac, English, dark Litharge. Mineral Wool, extra. Pumice Stone, selected Lur Pumice Stone, Powdered.	*******	*** ****		36c
: 33	Gum, Damar		******	******	250
. 30	Gum Shellac, English	******	******	******	40C
8e	Titheres				340
90	Mineral Wool ordinary	*******	******	W 5.	A 140
.1.00	Mineral Wool, extra				@ 2160
4.30	Pumice Stone, selected Lun	nps			.4 @ 6c
. 1.34					
. I.45	Pine Tar house				@ n ===
.1.60	Pitch. Putty, in bladders. Putty in bulk Rosin—Common and Good-	******	******	******	81.93
olls.	Putty in bulk		******		3C
	Posin-Common and Good-	Strain	har		87.00
not val.	E&F	OH OH	AUGALLE	\$2.10	@ \$2.30
teel,	G&H I & K M&N Spirite Furpentine	******	******	\$2.30	@ \$2.50
nade	I & K		******	.,82.60	@ \$2.80
, of	M&N		******	\$2.00	@ \$3.25
•	Whiting Spanish			3	8 6 39C
g of	Whiting Spanish			** . * * * * * *	94C
	Waste, No. 1 Cop Waste, No. 1 White Machine Waste, No. 2 White Machine		*******		TOC
	Waste, No. 2 White Machine				olec
514C	Waste, No. 1 Colored		*******	*******	7C
0140	Waste, No. 2 Colored	*****		******	6
60	Waste, No. 1 Colored Waste, No. 2 Colored Waste, Washed Machine	******	******	******	· · · · · · ·
80	Gla	88.			
5160	Priosa surrent pe	r box	of 50 fe	iet.	
3C	List, Janua	EY 17. 1	1682.		
16	Bingle '	Thick.			
00	STREET.	ISE.	1 2d.	1 3d.	48h.
5360	Control	100	2021	34	- quar-
4140	6 x 8 to 10 x 15	\$10.00	8 9.25	8 9.00	8 8.40
2160	11 X 14 to 16 X 24		20.75	10.25	0.50
ort	18 X 22 to 20 X 30	14.75	13.75	13.50	11.9/
P D	15 X 36 to 24 X 30	10.50	14.75	13.00	
.70C	26 X 26 to 24 X 35 26 X 36 to 26 X 44	18.95	17.25	14.50	
00	26 X 46 to 30 X 50	20,40	19.25	14.50	1
10%	30 X 52 to 30 X 54	32.75	37.00	18.00	
10%	30 X 52 to 30 X 54	24.00	27,00	19.75	
IOS IOS	30 X 52 to 30 X 54	24.00	35-75	19.75	
10 % 10 %	30 X 53 to 30 X 54 30 X 56 to 34 X 5 34 X 58 to 34 X 50 36 X 60 VO 40 X 60	24.00 25.25 26.50	27,00	19.75	
10 % 10 %	30 X 52 to 30 X 54	24.00 25.25 26.50	35-75	19.75	
10 % 10 % 10 % 1.80	30 X 53 to 30 X 54 30 X 56 to 34 X 5 34 X 58 to 34 X 50 36 X 60 VO 40 X 60	24.00 25.25 26.50	35-75	19.75	qth
10 % 10 % 10 % 1.80 80	90 x 52 60 30 x 54 30 x 56 10 34 x 5 34 x 36 to 34 x 6 36 x 60 to 40 x 60 Deuble	24.00 25.25 26.50 Thick. 18t.	35,75 36,00	30.75 31.50 33.75	-
10 % 10 % 10 % L. 80 80	90 x 50 to 30 x 54. 30 x 50 to 34 x 5. 34 x 58 to 34 x 50. 36 x 60 to 40 x 60.  Double	24.00 25.25 26.50 Thick. 18t.	35,75 30,00 30,00	30.75 31.50 33.75 3d.	4th Biz.o
10 % 10 % 10 % L. 80 80 80	90 X 15 10 70 X 14 90 X 15 10 13 X 5 34 X 15 10 34 X 50 36 X 50 10 40 X 50 Double  SIXES.  6 X 8 10 10 X 15.  11 X 14 10 16 X 24.	24.00 25.25 26.40 Thick. 18t. \$13.00 15.75	27,00 25,75 20,00 2d. \$12,25 14,75	30.75 31.50 33.75 3d. \$11.75 14.00	-
10 % 10 % 10 % 10 % 1. 80 80 80 80 1.10 fac-	90 X 15 10 70 X 14 90 X 15 10 13 X 5 34 X 15 10 34 X 50 36 X 50 10 40 X 50 Double  SIXES.  6 X 8 10 10 X 15.  11 X 14 10 16 X 24.	24.00 25.25 26.40 Thick. 18t. \$13.00 15.75	27,00 25,75 20,00 2d. \$12,25 14,75	30.75 31.50 33.75 3d. \$11.75 14.00	-
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10% 10% L.80 80 80 1.10 fac- arn, f 10	90 X (5) 00 X (4 30 X (5) 00 34 X 5 34 X (5) 00 34 X 50 35 X (5) 10 40 X 50 SIXES. 6 X 8 (0) 10 (4) X 15 11 X 14 (0) 16 X 24 18 X 22 (0 20 X 20 26 X 36 30 44 X 30 26 X 36 50 50 X 44	24.00 25.25 26.50 Thick. 18t. \$13.00 15.75 20.00 24.00 25.00	27,00 25,75 20,00 20,00 312,25 14,75 18,50 20,00 22,50 23,50	9d. \$1.75 14.00 17.76 19.24 20.00	-
10 % 10 % 10 % 10 % 10 % 10 % 10 % 10 %	90 X 15 10 70 X 14 30 X 15 10 34 X 5 34 X 15 10 34 X 50 36 X 50 10 40 X 50 Double  SIERS.  6 X 8 10 10 X 14 11 X 14 10 10 X 24 11 X 15 10 0 X 15 15 X 25 10 0 X 15 15 X 25 10 0 X 15 26 X 35 10 0 X 15 26 X 35 10 0 0 X 90 26 X 35 10 0 0 X 90 26 X 35 10 0 0 X 90	24.00 25.25 26.69 Thick. 18t. 813.00 15.75 20.00 24.00 25.00 27.00	37,00 25,75 20,00 3d. \$12,25 14,75 18,50 20,00 22,50 23,50 35,25	3d. \$11.75 14.00 17.00 17.00 17.74 19.24 20.00 23.00	-
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10% 10% 1.80808080 fac-arm, fro	90 X 13 10 70 X 14 3 30 X 15 10 34 X 25 34 X 15 10 34 X 25 35 X 50 10 40 X 50 30 X 50 X 5	24.00 25.25 26.50 Thick. 181. 813.00 15.75 20.00 24.00 24.00 25.00 97.00 30.00 31.50 33.00 37.00	37,00 35,75 20,00 3d. \$12,25 14,75 18,50 20,00 22,50 23,50 24,50 25,50 26,00 31,40 34,40	90.75 91.50 93.75 94. 811.75 14.00 17.76 19.25 20.00 24.00 24.00 24.00 25.25 98.50 38.50	811.0
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10 % 10 % 1.80 %80 % 80 % 1.10 fac-arm, & 10 % 6.30 % 6.30 % 50 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.30 % 6.3	90 X 15 10 70 X 14 3 30 X 15 10 34 X 15 34 X 15 10 34 X 15 34 X 15 10 34 X 15 10 35 X 15 X	24.00 24.25 26.50 Thick. 15.75 20.00 22.00 24.00 24.00 25.00 30.00 31.50 33.00 37.00 xtra fe, will will will will will will will will	27.00 25.76 20.00 21. \$12.25 14.77 18.50 20.00 22.50 22.50 23.50 31.90 34.00 00 reverbe cha All sinor th	10.75 31.50 33.75 3fl. \$11.75 14.00 17.00 17.00 19.25 19.25 20.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 24.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00 26.00	\$11.0
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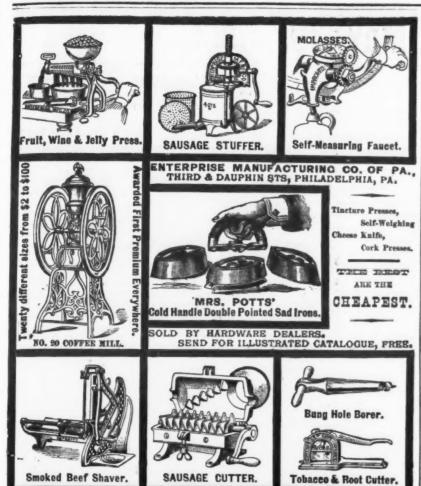
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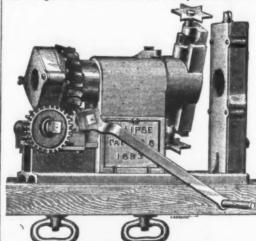


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Adjustable Jaw. Stationary or Pat. Swivel Bottoms. PEERLESS" SWIVEL PIPE GRIP,
FITS ANY VISE SOLD BY THE TRADE PRENTISS VISE CO., 23 Doy Street, New York.

# Junior" Eclipse Pipe-Cutting Machine



rough usage. All of these points, with the very important one of MODERATE COST, are to be found in the "Junior" Eclipse Machine.

It will cut off and thread Pipes from % to \*-inch, inclusive; can be erected on any fence, box or plank in five minutes by simply

PRICE, Complete with Dies 1-4 to 9 inches, \$60.

MAULE,

## MELLERT FOUNDRY & MACHINE CO., LIMITED.

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Realizes Perfect Utilization of Coal as Fuel, PRODUCES INGOT IRON FREE OF CARBON and INGOT STEEL OF ALL GRADES OF CARBON.

From every kind of Pig Iron or Pig and Wrought Scrap Iron. Apply to JAMES HENDERSON,

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FOREIGN AND DOMESTIC IRON ORES.

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Mears. C. & H. Borie, Bankers, Philadelphia annaylvania Steel Co.; Crane Iron Co.: Phonoi Mesers. C. & H. Borle, Bankers, Philadelphia; Pennsylvania Steel Co.; Crane Iron Co.; Phoenix Iron Co.; Cambria Iron Co.; Frankin B. Gowen, Esq., Pres't P. & R. R. R. Co.; Geo. M. Troutman, Esq., central National Bank, Philadelphia; Phoenix National Bank, New York, Eugene Dutin, Esq., President; Continental National Bank, Edmund S. Randolph, Esq., President; Mesers. Graff, Bennett & Co., Pittsburgh; S. Decatur Smith, Esq., Iron Founder, Philadelphia.

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Simple, Useful & Durable.

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One an elastic cleaning edge, the other a yielding cushion or support. Has hollow iron handles to attach to pole.

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embracing any or all of these principles, and shall prosecute parties found infringing, either by manufacture or sale of any other Rubber Window Cleaner.

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# New York Wholesale Prices, May 30, 1883.

	-
HARDWARE.	
A rylls, A farle Anvils American	16 %
Armitage's Mouse Hole (extra quality)	1176 1460 1460
Trenton Wiskinson's Pr Anvil Vise and Drill Millers Falls Co \$18.00	04
Augers and Bits. Conn. Valley Mrg. Co. Ouglass Mrg. Co. C E. Jennings & Co. Bumphreysville Mrg. Co. From list.	
Humphreysville Mfg. Co.)	01
heecher (French, Swift & Co	
Cook's Douglass Mfg. Co. dis 40& to 1 atent Solid Head. dis 3 Lewis' Pakent Single Twist. dis 4	MANA
Kussell Jennings' Auger, Dewel, Machine-Dowel and Hand Rail blis	N. N.
chine and Milwrights' Augersdis 25&10&10x10x10x10x10x10x10x10x10x10x10x10x10x1	24.00
Expansive Bits, Uses'. \$200 Expansive Bits, Ites's \$25. dis 20 Expansive Bits, Ives'. \$20. \$20. \$30. \$33. \$31. \$20. \$30. \$30. \$30. \$30. \$30. \$30. \$30. \$3	2000
Uriswold Nobes Mg. Co. Snell Mg. Ch. Snell Mg. Co. Snell M	X
Hollow Augers, Bonney's Adjust. F dz. 848—dis 25216 Hollow Augers, Stearns' Adjust. F dz. 845—dis 2521 Hollow Augers, Ives' Expansive, each \$4.50—dis 30210	22.22
Hollow Augers, Universal Expan., each \$4.50—dis 20 Wood's dis 25 Gimlet Bits	5 5
Gimlet Sits "Bee". dis 25 Double Cut Gimlet Bits, Shepardson's dis 40 Double Cut Gimlet Bits, Ct. Valley Mfg. Co. dis 20210 Double Cut Gimlet Bits, Lettwell's dis 60 Double Cut Gimlet Bits and Gis 60	A ALM NO
Hol.ow Augers, Universal Expain, each \$4.50—dis aw Wood \$5. dis 24 Gimlet Bits, Diamond. \$7.50 \tilde{v} gross, dis co Gir-let Bits, Diamond. \$7.50 \tilde{v} gross, dis co Gir-let Bits, Diamond. \$7.50 \tilde{v} gross, dis co Gimlet Bits, Bee" dis 25 Double Cut Gimlet Bits, Shepardson's dis 26 Double Cut Gimlet Bits, Ct. Valley Mrg. Co. dis 2021 Double Cut Gimlet Bits, Horwell's dis 60 Double Cut Gimlet Bits, Douglass' dis 40 Double Cut Gimlet Bits, Vo. dis 50 Morse's Bit Stock Drill dis 26.270 Mis 25 Child dis 26.270 Little St. Vock Drills dis 27.270 Little St. Vock Drills dis 27.270 Little St. Vock Drills dis	AN MAN
L'Hommedieu's bhip Augers	*
Aw: Haits.  Sewing, Brass Ferrule \$3.50 P gross—dis 40&10 Patent Sewing, Short. \$10. V doz.—dis 40&10 Patent Sewing, Long. \$1.0 V doz.—ne Patent Peg, Plain Top. \$1.0 V gross—dis 40&10 Patent Peg, Leather Top. \$12.00 V gross—dis 40&10	g
Patent Peg, Leather Top \$12.00 @ gross—dis 402.10  Awls. Brad Pets. &c.  Awls. Sowing, Common @ gross \$1.70—dis 25210	× (
A wile, Seving Common	RANGE IN
Awis, Handl d Scratch	N 18 18 18 18
Millers Falls Adj. Tool Hdles .	A Se Se Se
Bred Sets, Staniey's Excelsior, No. 4, \$7.50dis 30210  A xes.	% L
A xea.  Single Bit, 456 to 516 and under \$\psi\$ doz \$0.00 to \$\text{Single Bit}\$, 456 to 5 and ove. \$\psi\$ doz \$85 to to \$\text{Single Bit}\$, 456 to 5 and ove. \$\psi\$ doz \$\text{ads}\$ to to \$\text{Single Bit}\$, 500 advance. \$\psi\$ doz \$\text{advance}\$ to \$\text{Single Bit}\$ to \$\text{Single Bit}\$ as to 6 and over. \$\psi\$ doz \$\text{single Bit}\$ to \$\text{Single Bit}\$ beveled. \$\text{Single Bit}\$	e I
Axle Grense,	8
Axie trense.  Frazer's	
Dalonces.	E G
Hand, Light Brass	E E E
Hand, Silver Chime. dis 30&10 Hand, Gjobe (Cone's Patent). dis 20&10 Gong, Abbe's. dis 20&10 Gong, Yankee. dis 30&10	i i
Heilis.  Hand, Light Brass.  Hand, Light Brass.  Hand, Light Brass.  Hand, Extra Heavy.  dis 48.  Mand, White Metal.  dis 60.  Hand, Silver Chime.  dis 30.	5 V
Crank, Connel's	1 0 8 H
Lever, Taylor's Japanned   dis 2(&10)	PS
Puli, Western	M
Cow, Western, Sargent's list	S H
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Bellews. Blacksmiths Common dis 45 at 3 dis 20 dis	GCOO
Molders' dis 25 5 Hand Bellows dis 20 5	J
Beiting, Rubber. Belting and Packing Co	R
Bis Holders.  Extension, Barber's.	*
Blind Adjusters.—Domestic. V dos \$1.00—dis 30 % xcelsior	28.3
Blind Fasteners.  Mackrell's.  Van Sand's 'Crew Pattern	Sc Sc Sc
Merriman's	Sc 50
Hiind Staples.  Sar bed, 1/2 in. and larger	
Penfield Block Co. I. R. and I. Strap'd. Penfield Block Co. W. I. C. bushed. Penfield Block Co. W. I. C. bushed. Penfield Block Co. W. I. all steet roll'r. Penfield Block Co. I. & I Sheaves.  g a light straight	Gi
	in
Cast Iron Barrel Shutter, &c	in
Wrought Sarrele.  Wrought Shutter, all Iron, stanley's list. dis coate 5 Wrought Shutter, all Iron, stanley's list. dis coate 5 Wrought Shutter, Brass Knob, Stanley's list. dis coate 5 Wrought Shutter, Sargent's list.  Wrought Shutter, Sargent's list.  dis coate 5 Wrought Shutter, Sargent's list.  Wrought Shutter, Sargent's list.  dis coate 6 Wrought Suuk Flush, Stanley's dis coate 6 Wrought Suuk Flush, Stanley's dis coate 6 Wrought Suuk Flush, Com'n Stanley's dis coate 6 Wrought S. Flush, Com'n Stanley's dis coate 6 Carriage and Tire, Common dis coate 6 Carriage and Tire, Philadelphia rattern dis coate 6 Carriage and Tire, Philadelphia rattern dis coate 6 Carriage and Tire, Philadelphia dis coate 6 Carriage 6 Carr	No Bu
Wrought Sunk Flush, Sargent's	As (a) Pl
Carriage and Tire, Common dis 8.6808 to 8. Carriage and Tire, Philadelphia new list. dis 70 S. Carriage and Tire, Philadelphia Fattern. dis 70 S. Union Carriage. dis 20 S.	Ro
R. B. & W. Cairiage (old list)	Se An
Stove   R. & E. Mfg. Co.   dis 40 \$   Stove   R. & E. Mfg. Co.   dis 40 \$	Pe
S. Ove - American Screw Co. 's   dis 20 \times Seve R. R. & W   dis 20 \times Seve R. R. & W   dis 20 \times Seve R. R. & W   dis 20 \times Seve R. R. & E. Mig. Co   dis 20 \times American R. B. & Co   dis 20 \times American R. & Co \times R. & Co   dis 20 \times American R. & Co \times R. & Co \times R. & Co   dis 20 \times R. & Co   \times R.	Co La Di
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Hering Muchines. Upright Frequently no Augers. \$0.00 Philips, with Augers. 7.00 Jonnings & Co., no Augers. 5.50 Boxes. \$4.55dis 40.55	Rx Co
nterchangeable Shelf Boxesdis 20 %	Bas
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Common Ball (American) dis 55 5 5 Amidon's dis 55 5 Backer's Imp'd dis 55	Car
237 W-C-M-C-C-M-C	Pin
Shelf. plain         dis todito \$           Shelf. fancy         dis boûr \$           Keading Plain         dis \$6.2 \$           Keading, Rosette         dis 6.2 \$	Hot Hot Kui
Bright Wire Goods 1st of Dec. 16, '79dla 68810 8 Buil Mings.	SILV
Union Nui Oo dis cc 2 Sarquot's. dis 2004 dis 10 2 Hutchkins' low list dis 15 Humason. Beckley & Co. 2. dis 16 2	Mer Am Hu
assummanded, modulately & Co.'sdia 668a& to \$	Nas

CM IOIK WILL	U
Butta, Wrought Brass.  Wrought Brass.  Cast Brass, Tiebout's dis 33 Cast Brass, John's Fast Joint dis 26 Cast Brass, John's Fast Joint dis 26 Cast Brass, Loose Joint dis 106 Cast Brass, Loose Joint, Loose Joint, Japanned with Acorns. Cast Loose Joint, Japanned with Acorns. Cast Brass, Loose Joint, Japanned dis 506 Cast Brass, Loose Joint, Japanned dis 506 Loose Pin, Acorns, Japanned dis 506 Loose Pin, A	ks 1
Cast Brass, Tiebout's dis 33 Cast Prass, 'orbin's Fast Joint dis 20% Cast Prass, Loose Joint dis 10%	10 9
Fast Joint   Irond   Ula 45%   Ula 55%   Ula	10 9
Loose Joint, Japanned with Acorns. dls 54& Parliament Butts. dls 54& Mayer's Hinges dis 56&	10 %
Loose Pin, nu Acorn         dis 50&           Loo-e Pin, Acorns         d's 50&           Looe Pin, Acorns, Japanned         dis 60&	10 %
Loove Pin, Acorns, Japanued, Plaved Tips. dis 6-2.  Fast Joint, Narrow	10 %
Fast Joint, Narrow dis soft: Fast Joint, Lt. Narrow dis soft: Fast Joint, Et. Narrow dis soft: Fast Joint, Broad dis soft: Loose Jo nt, Broad dis soft: Loose Jo nt, Broad dis soft: Inbide Mind Regular dis soft: Inside Mind Regular dis soft: Inside Mind Loose Loose Pin. Lght dis soft: Spring Hinges: dis soft: Spring Hinges: dis soft: Loose Pin. Lght dis soft: Spring Hinges: dis soft:	0000
Inside Blind, Light dis soki	0%
Loose Pin, Wrt dis 5621 Loose Pin, L ght dis 5621 Spring Hinges: Licer's Spring and Blank Butts dis 223	0%
Sabin Mfg. Co.'s Double Acting. dis- Un'on Spiral Spring, Japanned dis- Union Spring Hinge Co.'s dis-2	5月 5
American Spring Hinge Co.'s. dis 3 Gem Spring Hinges. dis 3 Harker's Double Acting. dis 2	10%
Union Mrg. Co. die 2 Brumer's dis 2 Buckman's dis 2	馬馬馬
Acme dis coxp Climax dis coxp Blind Butts Purker dis coxp	の方がので
Loose Pin, Wrt	NAM.
1 & 2	10% 10% 10%
Blind Butts, Nichelson dis 4-&re Blind Butts, Huffer dis 6 Blind Butt Clark's, Nos. 1, 3, 5 d's 7, &.	400
Blind Butts, Sargest's, No. 12. dis cocioxis Blind Butts, Fargest's, No. 12. dis rokis Blind Butts, Reading's Gravity dis65%216	18.00
Clark's Improved Shutter Hinge, Nos o. 1, 1%, 2, 2, 3, 3, 4, 5, 6, 6, 1, 1%, 2, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1, 1,	8
Humason, Beckley & Co.'s other Nosdis 60% & ro Narcant & Co.'s	*
Peck, Stow & W. Co	N N
Bradley's	×
#16.50 19.00 21.00 24.00 27.00 20.00 33.00 36 50  (an 12peners.  Messenger's Comet.  # gross \$6.00 dls 25 American.  # gross \$6.00 dls 25 American.  # gross \$6.00 dls 25 American.  # doz 25.00 dls 25 NO 4, Prench.  # doz \$5.25, dls 36 Eurova.  # doz \$5.25, dls 36 Eurova.  # doz \$5.00 dls 25 Star.  # doz \$7.00 dls 25 Star.  # doz \$7.00 dls 25 Sprague, No 1, \$2.00; No 2, \$7.25; No 3, \$2.50.  ***dls 50&tion 418 **dls 50&tion 418 ***dls 50&tion 418 **dls 50&tion 418 ***dls 50&tion 418 **	
Trends	N M M N
No. 8, Iron Handie	A 26 26 2
Star	5 8
"Words Best" # gross, No. 1. \$12.00; No. 4. \$42.00; No. 5. \$50.00 Universal \$1.00 \$50.00 us 25 Domestic. \$1.00 \$50.00 us 25 Domestic. \$1.00 \$50.00 us 25 Domestic.	91.76
Champion	×
F. L. Waterproof, 1-10'S	04810
Pistol Waterproof, extra heavy, 1-10's	Ols a
U. M. C., F. L. ground	5
G. D. & S. B	2
E. B. 1-10, trimmed	8
"Words Best " # gross, No. 1. \$12.00; No. 2. \$42.00; No. 3. \$50.00	N N
Cotton new list, July, '81, dis to Wool new list, July, '81, dis to tarpet Stretchers.	E E
Cast Sieel, Polished	N N N
Bullard's	H H
Shallow Socket. dis 35&10 Deep Socket. dis 25&10 Martin's Patent (Phonix). dis 25	2
Humason, Beckley & Co.'s dis 70&10 Sargent's dis 70~10 Sargent's d	
Peck, Stow & W. Co	-
Chain. Trace, objeto-a.  Trace, objeto-a.  Trace, objeto-a.  P pair yee  Trace, objeto-a.  To pair yee  Trace, objeto-a.  Trac	
Covert Halter, Hitching and Breast. dis 154c; Oneida Halter Chain (old 41st). dis 45c per Gaivanized Pump Chain.	
Jack Chain, Iron dis 60&10 9 Jack Chain, Iron dis 60&10 9 4 halis	
White. From for ne Red. From for ne blue From sice ne	
Jack Chain, Itrass dis costo 4  † halik.  White.  # gross 50c ne  Red.  # gross 50c ne  Hed.  # gross 50c ne  Hed.  # gross 50c ne  Gross 50c ne  # gross 50c ne  Hed.  # gross 50c ne  # gros	
Socket Framing, arlington Edge Tool Codis 652 to 3 Socket Framing, cuck Bros	
Socket Framing, Witherby Tool Co. dis 656 to 5 Socket Framing, Douglass dis 656 to 1 Socket Firmers, Crossman, dis 652 to 4	
Socket Firmers, Arligton Edge Tool Codis 658 to 9 Socket Firmers, Buck Bros	
Socket Firmers, Witherby Tool Co. dis 65&20 f socket Firmers, Douglass' dis 65&20 f Socket Corner dis 65&20 f	
Tanged Firmers, Butcher's \$4.0008 10 & Tanged Firmers, Spear & Jackson'a \$5.00 to & Tanged Firmers, Spear & Jackson'a \$5.00 to & \$7.00 to \$7.00	1
The let Crayons.—See Lines Chiefs. Socket Framing, Crossman	1
Iron, Adjustable, Gray's. dis 20 % Iron, Adjustable, Lambert's. dis 20 % Iron, Adjustable, Sn-w's. dis 20 % \$ 5	20.0
iron, Adjustable, Hammer's dis 15 % iron, Adjustable, Stearns' dis 20% 10 % iron, Cabinet, Sargent's dis 70% 10 % iron Cabinet, Sargent's distance di	- H
Cilipa, Axie.  Norway or Kest dis boke 6  Sumerior dis 8 & 8 & 9	E
Cockeyes. dis 45 % Cocke, Brass. dis 45 % Cacking new list. July 10, 1886.	T
Globe, new it t, July 15, 188c	26 0
Globe Mfg. Co.   Glis 69&10	E
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Semis & Call Co. 8 Double Semis & Call Co. 9 (Call's Patent Inside). dis 30 5 Excelsior. dis 40 5	CHH
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MANAM	Bras. dis  Door *prings. torrey's Rod, regular size, ₹ dos., \$3. dis  Gray's Rod dis fee Rod dis fee Rod dis	40 %
MANA	Fee Rod dis Warner's dis Gem (Coll):	15 % 30 %
MMMM	Warier s.   Wari	*
200	No. 5, Screen Door size # dos 2.00 No. 6, Medium # dos 2.75 Ne. 7, Large # dos 4.00	to %
MNINA	Sabin's Lever. No. 1, \$1; 2, \$1.40; 3, \$2; 4, \$2.40 dis sabin's Boss. No. 1, \$1 dos. \$4.00; 2 \$2.75; 3, \$2.dis 33 Sabin's "rown	5 % % 15 % %
5 × 5 × 1	Cowell'sNo. 1, \$\psi \dos. \$18.00; No. 2, \$15.00, \dis Rubber, complete	10 % 10 %
	Drawing Knives.   Arlington Edge Tool Co.   dis 6-&	0 %
6 6	Nobles Mfg. Co	55.50
6 6 6	Ouglas die 6621  Globe Mig. Co. die 6521  Drille and Drill Stocks.	0%
	Drills and Drill Stocks.  Blacksmiths'	NOW NO
	Breast, Wilson's	O SE
	Ratchet, Nerrill's	5.3
	Ratchet, Moore's Triple Action	A 24 20
1	Automatic Boring Toolseach, \$2.25, dis 2  Drill Chucks Morse's Beach Patent	×
	Morse's Adjustableeach, \$10.00, dis 30 Danburyeach, \$2.00, dis 30 Pag Benters.	%
-	## Dover	A Se Se Se
	Egg   Benters.	et s
1	Mill E. Buckets, ight, 354 to 10 in. (Duc's Improved),  10.3, \$15.00 @ \$54.00	x
		7 7
	Emery and Emery Paper.  Regular numbers. P b  Flour and F. F. F b  S. A. Emery Paper. dis sode  Stibley's Emery and Crocus Cloth, large size, \$c;	ie ie
ı	Enameled and Tinned Ware.	- 4
1	Escutcheon Pins.	
	Brass	1 6
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Fa	omity, Howe's " Eureka "dis 25 % omity, L. F. & C.'s " Handy "dis 30 % Grindstone Fixtures.	To Pa
R	Grindstone Fixtures. rgents Patent dis 70&10 % ading Hardware Co. dis 30&10 % Gun Wada.	Sai
U.	Gun Wads. M. C. B. E., 11 up	Fai
U.	M. C. P. E., 9&10	Bri
Co	Haltera.  vert's Pat. Rope	An Mo Ha
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A i	arner & Noble's	Doc Pur Fur
Tr.	and Cuffs and Leg Ireas. vidence Tool Co., Hand Cuffs, \$15,00 ♥ dos.dis 10 5 vidence Tool Co., Leg Irons, \$25,00 ♥ dosdis 10 5 wer'sdis 25 5	Pic Pic Hei Shu
	Inndies,—Door or Thumb Latches.	L

0	Apple Firmer Chisel, assorted, & gross 5.00	
0 5	Socket Firmer Chisel, assorted, # gross 5.00 20 Socket Framing Chisel, assorted, # gross 5.00 (	at 10
1 5 5 G	Auger, assorted, * gross. 5.00 Auger, large, * gross. 7.00	ac 10
.,	Patent Auger, Ives	net net
	Hangers.  Barn Door, old patterne dis 60%: Barn Door, New England dis 55%: Climax (Anti-Friction). dis 5	20%
9	Climax (Anti-Friction). dis c Challenge. dis c "Champion" Medina Mtg. Co	A 34 34
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90	U. S	0%
MANA	Terry's Patent	20%
N. N.	Herness Fun Ps. Auchor (T. & S. Mg. Co.)	200
ANN.	Andrews'dis	28
75.5	German, low list, Sep., 1882	18
**	Covered spring, new list, Oct., 1882	. 1
13636	Salah Blood       dis 3c         Shingling, Nos. 123       # dos \$7.25       \$8.00       \$8.00       \$0.25         Claw, Nos. 123       # dos 7.75       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.00       \$0.0	8
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TO THE WOOD OF THE PERSON OF THE WALL CONTRACT CONTRACTOR OF THE MANAGEMENT CONTRACTOR OF THE MANAGEMEN	Brot Cage, Sargent's list. dis 60&10 5 Bird Cage, Reading dis 90&10 Cotton \$\mathbb{Y}\$ dos \$\mathbb{Q}_{\text{cotton}}\$ dis 90&10 Cotton Patented (N. Y. Malles & Hand's W ks). dis 90% Cotton Patented (N. Y. Malles & Hand's W ks). dis 90% Cotton Patented (N. Y. Malles & Hand's W ks). dis 90% Cotton Linumanon & Heckley Rig. Co) dis 90% 100% Meston's No. 1, \$\mathbb{X}_{\text{cot}}\$ No. 0, \$\mathbb{X}_{\text{cott}}\$ No. 0, \$\mathbb{X}_{\text{cotton}}\$ No. 0, \$\mathbb{X}_{cotton	SHOW THE CONTROL OF T
TO THE WOOD OF THE PERSON OF THE WALL CONTRACT CONTRACTOR OF THE MANAGEMENT CONTRACTOR OF THE MANAGEMEN	Bird Cage, Sarzeni's list. dis 6-20. Bird Cage, Sesding dis 4-20. Bird Cage, Reading dis 4-20. Bird Cage, Reading dis 4-20. Bird Cage, Reading dis 4-20. dis 4-2	TEST V TEST THE BEST OF THE STATE OF THE STA

		40 % Apple Firmer Chisel, large, # gross 6.00	Philade lubiadis 30
dis 10&1	Door Springs.	Socket Firmer Chisel, assorted, w gross 3.00 } 20	zio remon squeezers.
dis 45&2		File assorted, # gross	Porcelain Lined.   \$\psi\$ dos \$\psi_0.00\$, dis \$\psi_2\$;   Wood
dis 55&1	O N   Wingsparks	an a language and a Brown	Dunlap's Improved
dis 55%1	Well (Coll);	36 * Patent Auger, Ives' dis : Patent Auger, Douglass	Townsend's Patent
dis 60&1	No 2, Medium, Japanned # dos 2.75 dis 50 & 1	Hangers,	The "Boss"
d's so&n	star (Coll) -For Cop'd, Nickel-Plated &c., see list.	Hangers. Barn Door, old patterns dis 6.%: Climax (Anti-Friction). Climax (Anti-Friction). Climax (Anti-Friction).	Lines.—Linen Fish
Tipsdis 6.21	No. % celecti poor size & dos 200 (410		Silver Lake, Braided, Nos. o. \$6.00; No. t. \$6.00; No.
dis 50&re	No. 6, Medium	60 % Challenge	2, 87,00; No. 3, 87.50 W gross
dis 5 & ro	Sabin's Boss. No. 1, #1; 2, #1:40; 3, #2; 4, #2:50.dis 33	35 % Cheritree	
dis sole re	Sabin's 'rown	13.5 U. S	Wire Clothes, Galvanizedeach 250@40c net
dis socia	Cowell'sNo. 1, \$1 dos. \$18.00; No. 2, \$15.00, dis	56 8 Kidder's dis cos 57 7	Locks snd Latches,   Changes made in list price of Cabinet, Eagle
dis 45&10	Herculesdis	Harness   Sun ps.   11,   11,   12,   13,   14,   14,   15,   15,   16,   16,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17,   17	Cabinet, Gaylord some numbers Jan. 1, 1881,
dia 2314	Drawing Knives.   Arlington Edge Tool Co.   dis 6-26   Arlington Edge Tool Co.   dis 6-26   Arlington Edge Tool Co.   dis 6-36   Morrill   dis 6-36   Morrill   dis 6-36   Arrives   dis 6-36   Arrives   dis 6-36   dis 6	Henshaw's, list of 11/4 changed to \$14.00dis 6 To \$ Judd's, list of 11/4 changed to \$14.00	Cabinet, P. & F. Corbindis 25&2 %
dis 49	S Crossman's No. 1dis 658	Fitch's (Bristol), list of 1% change to \$14.00dis 55&1	Cabinet, Stondary Lock Codis 40 %
dis 29	Nobles Mrg. Codis		
dis 30	g Bradley'sdis Adjustable Handlegis	of German, low list, Sep., 1882	Round Key, Nos. 1 to 5dis 40&10 %
dis 20	Bradley''s   Glist	Andrews and the state of the st	Flat Key
dis .5	g Globe Mfg. Codis 65&	Covered Spring, new list, Oct., 1882dis 6c&1	Round Key, Nos. % to 12. dls 40&10 % Fint Key dls 33%&10 4 A. E. Deltz, Fint Key dls 30@40 % Yale Loca Co. Fint Key dls 30@40 % "Shepardson or "U. S. dls 45 % Finte "or "American "dls 33%&2 % Finte dls 33%&2 % F. Many's "Extension Cylinder". \$10.50 \( \psi\$ do z net  Branford.  Branford.  Norwalk
dis 50%10	Brills and Drill Stocks.  Blacksmiths Self-Feeding. each, \$5.50, dis a Blacksmiths Self-Feeding. each, \$7.50, dis a Breast, F. S. & W. dis ack!  Breast, Hotchkins dis ack.	April   Apri	"She pardson" or "U. S."dis 35 % "Felter" or "American"dis 33 %
dis 658c10	Blacksmiths' Self-Feedingeach, \$7.50, dis 2	Claw, Nos. 123 P doz 7.75 8.40 9.25	F. Many's "Extension Cylinder" #10 to Wdog net
dis 70&2	Breast, Hetchkiss'dis	Hunt'sdis 2-	A Branford DOOR LOCKS, ETC.
ocking," Nos.	Freast, Wilson's dis- breast, Wilson's each, \$2.50 dis- breast, Birless Falls each, \$2.50 dis- breast, Birless Falls each, \$2.50 dis- breast, Birless dis- breast, Birless dis- breast, \$2.50 dis- breast,	Hunt's.   dis 2-   Shinging, Nos. 123,   # doz \$7.24 \$8.00 \$8.75     Claw, Nos. 123,   # doz \$7.24 \$8.00 \$8.75     Lathing, Nos. 123,   # doz \$7.30 \$8.4 0.00     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.30 \$8.4 0.00     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.30 \$8.4 0.00     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.30 \$8.4 0.00     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.30 \$8.4 0.00     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.24 \$8.00 \$8.75     Hunt's.   dis 2-   Claw, Nos. 123,   # doz \$7.24 \$8.00 \$8.75     Hunt's.   dis 2-	Norwick List prices as revised March 8, 1882, with changes of Eussell & Erwin Dec. 12, dis 45&10 % and 2 % March 1888.
dis 70	Ratchet, Merrill'sdis 1	2 Lathing, Nos 123 # dos 7.30 8.15 0.00	P. & F. Corbin 8, 1882, with changes of
dis 70&10	Ratchet, ingersoll's	Hurd's dis 30 Shingling, Nos. 1 2 3	Mallory, Wheeler & Co., for eash.
dis 1480 10	Ratchet, Whitney's dis 2 Ratchet, Whitney's dis 2 Ratchet, Woore's Triple Action dis 2 Ratchet, Moore's Triple Action dis 2 Ratchet, Moore's Triple Action dis 3 Ratchet, Woore's Triple Action dis 3 Ratchet, Whitney's dis 3	Claw, Nos. 123 dos 0.00 0.10 10.00 0.00 0.10 10.00 0.00 0	Whippie Mfs. Co.  Reading Hardware Co. (low list).  Maltory. Wheeler & Co.  Wm. Wilcox & Co.  Yal Lock Mfg. Co.  Komer's.  Concistogs.  dis 26 40 55 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8
dis 40 dis 50 & 20 & 20 dis 50 & 20 & 20	Writney's Hand Drill, Plain, \$12.00 Adjustable,	Xerkes & Plumb	Reading Hardware Co. (low list)
dis 70&10	Wilson's Drill Stocks	Saingling, N = 8, 12 2   # dos # , 50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,50 \$8,5	Maltory, Wheeler & Co dis 30&10 %
08 0, 1, 116, 2, dis 600 10	Drill Chucks.	Shingling, Nos. o 1 2 3 # doz \$7 50 88.00 88.50 \$9.50	Wm. Wilcox & Co and 2 % for cash
	Morse a Deach Fatent		homer'sdis 25 @ 40 %
adis 60	Danburyeach, \$8,00, dis 3	0 % Lathing, Nos. 0123 \$\psi\$ dos 8.00 8.50 9.00 \$\text{Broad,}\$ Nos. 1234 \$\psi\$ dos 9.00 10.00 12.00 12.00 \$\text{Loop}\$ 18.00 20.00 22.00 \$\text{22.00}\$	Conestoga
dis 6694&10 1.40, dis 6694&10 dis 34 dis 30&10	Egg Benters. W dos. \$2.40, dis:	#   Course dis to	J. H. McWilliamsdis to \$
dis 30k10	Notional Property des States die sele	Shingling, Nos. 123	" star "dis 45 %
dis 25		Claw   Nos. 12   12   0   0   0   0   0   0   0   0   0	A. E. Dietz
dis /4	Acme	Shingling, Nos. 123	Penfield Block Co., Lignumvitæ & Hickorydis 30 %
7 8	Elevator Buckets.	Claw, Nos. 1 2 3 dos 0.00 0.50 10.00	In the distance of the second
loz \$3.00, dis 25	Elevator Buckets, 18pt. 316 to 10 in. (Duc's Improved).	Ax Pattern, Nos. 1 2 3 # 608 10.00 11.00 12.00	Wiles' Challenge
nss \$6.40, dis 25; 8 240, dis 14@20;	# 10., \$15.00 @ \$5.00	"Lightning" @ doz \$20.00 dis to	# dox822.00 30.00 40.00-dis 40 %
loz 83.75, dis 20 1	Storehouse (Duc's Patent), 12 to 17, \$12 @ \$20dis 10	Wadsworth'sdis 33½	Each \$3.00 4.00 5.00 11.00 12.00 30 00-dis 2585 \$
068 80 0°, dis 25 ; loz 82.50, dis 10 ;	Emery and Emery Paper.	Gate, Western # doz \$4.00 dis qq	DixOn's(r.S.&w.)Nos.   1
loz \$7.00, dis 55 ; \$5.00, dis 25&5 ;	Flour and F. F * 3	qc Gate, N. E. Reversible doz 86.45 dia 55	Hales'
1, 82,50	Sibley's Emery and Crocus Cloth, large size, \$10;	Gate, N. Y. State doz \$5 cs. dls 45% to	Draw Cut. Nos. 4 2 6 8 10 Each. \$40.00 74.00 80 00 224.00 400.00 dis 20 %
: No. 2, \$24.00;	Enameled and Tinned Ware.	Gate, Common Sense dos pair 84 50, dis 50	American dis 20% ic %
102 \$ 2.00, dis 35	Kettles dis co	Gate, Shepard'sNos. 1, 2, %, 10, 20 & 25, dis 50&10	Each
Oz \$2.50, dis 45 5 Oz \$2.00, dis 50 5	Indea Sauce Page	Rolled Blind Hinges dis colcio	Kieser's Gem
	Excutcheon Pins. Brassdis so	Rolled Raised dis 60.210;	Kieser's Butener
	Escutcheous.	Rolled Raised.  Find Raised.  Find Raised.  Frow Hook and (8, 10, 12 in., \$7.00 Find b)  Strap	Pannaulyania dia salita d
re, 1-10's7.0	Bacutcheous. Door Lock	8 Strap 14 to 36 in. \$5.75 2 10c h }dls 10	Nos
	#3mm-cuts	(24 mm abi 45 to 1 mm or ) to 1	Beef Shavers (Enterprise Mfg. Co.) dis 20210 %
900 dis 10/210 9	Feon's   dis 40	Screw Hook and Eye	Am. (id quality), # gross, r blade, \$7 2 blades, \$12 3 blades, \$18net
700 dis 10ks 2	Fenn's Cork Stopsdis 13	5 in., 100 20 %	LOGHE D'S
33C, dis 10 f	Frary's Patent Petroleumdis 30&10	wrought strap and I	
710 dia 10 \$	Anghan Look	3   Riveted Shank # dog as co die co	
6:00 dis 10% 5	Anchor Lock	S Grub	Motasses Gates Stebbins Patte.ns. dia 70&10 S Stebbins Genuine. dia 674s&10 S Stebbins Genuine. dia 674s&10 S Stebbins Tinned Ends. dia 30&10 S Classe's Hard Metal. dis 50&10 S
		Scovill Patterndis so	Stebblis Tinned Endsdis 408 10 \$ Chase's Hard Metaldis 408 10 \$
dis 20&10 %	Self-heasuring, Enterprise P dos. \$30.00, dis 20210	Hick's Pat Solid C. S. Planters'dis 2061 &30	Bush's dis 20 % Lincoln's Pattern dis 60% 10 %
dis 75 dis 20210 g July, '81, dis 10 g uly, '81, dis 10 g uly, '81, dis 10 g	Metallic Key, Leather Linear. dis so Cork Linea. dis so Cork Linea. dis so J. Sommer's Best Metallic Key. dis soltio J. Sommer's Cork Linea, ist quality. dis so Self-A casuring, Enterprise. P doz. 39.00, dis 20k10 Self-Measuring, Labe s. P doz. 39.00, dis 20k10 Self-Measuring, Labe s. P doz. 39.00, dis 20k10 Self-Measuring, Victor. # doz. 39.00, dis 20k10 Self-Measuring, Victor.	Planters	Wer 18dis 15 6
uly. '81, ale 10 %	Felioe Pintes B, 100, dis 25	K   Winsted & Lane, Scovin Pattern 3 20025	Boss Nos. 1 9 3 4 4 doz. dis foarcă 10 5 \$7.00 8.00 9.00 10.00. \$7 doz. dis foarcă 10 5 Nuts and Washers(in lots less than 100 to add bet to list; 1 lb. boxes, add 1c to list.)  Square Nuts
na 84.co. dia 30 %	J. & Riley Carr new list April 1, '83, dis 20 J & Riley Carr Horse Ruspa	g Hooks.	Nuts and Washers(In lots less than 100
og £2.40. din ac @	J & Riley Carr Horse Rasps dis to	Bird Cage, Readingdis 40&10 5	Square Nuts
dls 25 1	Moss & Gamble	Cotton Patented (N. Y. Mallet & Hand's W'ks), dis 30 %	Hexagon Nuts
4560 50 5 dis 35&10 5 dis 25&10 9	Heller Bros. Fliesdia so	G Cotton (Humason & Heckley Mfg, Co)dis 40 %	Nut Crackers.
dis 25&10 9	New American dia to	Weston's, No. 1, Bic.co: No. 2, Bo.co W dondis as	Nut Crackers. Table (Humason & Beckley Mfg. Co.). dis 33/2 s Blake's Pattern. B dos \$2.00, dis 5.5 Turner & Seymour Mfg. Co. dis 5.5  Turner & Seymour Mfg. Co. dis 5.5  On humanis on to bales and over 56.5 is 8.
dis 70&1c %	Union Frie Co. dis co stubs. new list, dis 25/2002 Frietling Machines	McGili's, \$3.00 % dos	Annum,—is on 100 bales and over 16 5 W D.
	Fluting Machines.	Clothes line, Reading list	Oakum.—Is on 100 bales and over 1/4 5 \$ B. Best \$ Bo c U. S. Navy \$ B 8 c
dis 25 % dis 33 <sup>1</sup> 5& to %	Knox, 6-inch Rolls	Harness, Reading list dis pariotro 5 Coat and lat, Sargent's list dis cotro 610 5 Coat and Hat. Reading dis pariotro 71 5	Navy
air 790 dis 35 3 air 860	Knox, 8-incn Rolls	Coat and Hat. Readingdis sokrokro	Brass and Copper
air 86c dis 34 3	Crown, 4%-in., \$3.50; 6-in., \$4.00; 8-in., \$6.50 each, dis 25	Wire Coat and Hat, Gem	Prior's l'atent or "Paragon" Zine dis 60 %
61dis 50 % dis 50 % dis 1586 %	American, 5-in., \$4; 6-in., \$3.40; 7-in., \$4.50 each, dis 25	Picture Hooks, Brewn's Pat. Bolid Brass, \$4.00 P	Olmstead's, Tin and Zinedis 6 %
dis 15#5 %	Domestic Fluter. S. 150 each, 18 Geneva Hand Fluter, White Metal. # doz \$12, dis 25 Crown Hand Fluter, Nos. 1, \$15; 2, \$12.50; 3. \$10.00	gross	Olmstead's, Tin and Zinc
dis cokro f	P dos	Wrought Staples. Stapley's listdis 702712210 %	Broughton's, Brassdis to \$
dis cokto f	Crown Mann Fibrer, Nos. 1, #15, 2, #12.50; 3. #10.00 \$\psi\$ dos \$\psi\$.  On \$\psi\$ dos \$\psi\$.  On \$\psi\$ dos \$\psi\$.  On \$\psi\$ dos \$\psi\$.  Shepard Hand Fluter, No. 11c. per dos \$\psi\$.  Shepard Hand Fluter, No. 05 per dos \$\psi\$.  Shepard Hand Fluter, No. 05 per dos \$\psi\$.  On \$\psi\$.  On \$\psi\$ dos \$\psi\$.  On \$\psi\$.  On \$\psi\$ dos \$\psi\$.  On \$\psi\$.  On \$\psi\$.  On \$\psi\$.  On \$\psi\$.  On \$\psi\$.  On \$\psi\$.	wrought Staples and Hooks a Staples. dis 70% 74% 75% 70 % 70% 70% 70% 70% 70% 70% 70% 70% 7	Packing. Steam. N. Y. Belting and Packing Codis 20 1
P gross for net P gross for net	Clark's Band Fluter. No. 95 per dos \$6.50, dis 20;	Hooks and Eyes-Malleable Irondis 60%10 %	N. Y. Belling and Facking Co
gross \$1.00 Bet	Combined Fluter and Sad Iron P doz \$15.co, dis 30 Buffalo W doz \$10.co. dis 10	Horse Nai n.	Faber's Round Gift # gross \$4.50, net
# gross ric net	" uting Scissors	Amenble 20 % are elle vie are are are dis saftra di	Dixon's Lumber
dis 64.84 5	Fly Traps. Paragon	Clinton Plain & was not not the district.	Patterned s to 6 fts m : 6 to s fts so
0dis 65% 5 5 6 list, dis 22% 5	Howks	Fesser. Who are also she are any and this willing	Adze Eye, 5 to 6. \$12.00; 0 to 7, \$13.00dis 45 %
dia 668 10 %	Hay, Manure and Spading	Vulcan, "26c 23c 21c 20c 19c 18cdis 12/6 5	Brass Head, Sargent's listdis somio
discharge to	Fruit and Jelly Presses	G1008,240 210 190 180 170 100	adice Eye, vice, \$12.00; 0 to 7, \$23.00
dis 65& 10 \$ 6 list, dis 22 9 2	Fruit and Jelly Prenses. Enterprise Mfg. Codis 25	Forged "3re 28e 26c 24e 24c 24c dis 30 \$	Porcelain Head, I, & B. Mig. Co
dis bakto \$	Fry Pans. Burnished list as followsdis 60&10&5	New Haven, " 310 280 200 240 240 290 Alis 30810 % Bridgewater, " 240 210 100 100 120 100	Pinking Irons
dis 658 to 1	Wilder \$1.00 3.75 4.25 4.75 5.35 6.00 7.00 8.00 0.00	Horse Shore.	Magic 9 doz \$10.00, net
dis 658210 T	NO	Burden b keg 84-3756 R. I. Horse Shoe Co., Perkins' Improva Light, Medium and Heavy b keg 84-3756 Walker's Forged, Light, Med. or Heavy b keg 84-3759	Crown Piaiting Machines
SE DURINGE SE TO F	Cauges.	Light, Medium and Heavy & Keg \$4.37%	Planes and Plane Irons.
5.00 to £ 5.8 to £ dis 65\\$10 \$	Wiredis tokio	Mule Shoes Water Sp. 3770	Bench, First Qualitydis 20 1
dia 25 %	Marking Chapin's   dis 56k15    Wire   dis 10k16    Wire   Disston's   dis 200   Wire, Wheeler, alaiden & Co   dis 200   Wir	Dunning's Steel.    Ce Awis, Chisels, &c.   # dos \$1.00 net	Molding
dis 20 %	Gimlets.	National Ice Chisel @ doz \$6.24 dis 20 \$	Molding Stanley R. & L. Co.) new list, Jan. '79, dis new 103 The Stanley S. & L. Co.) new list, Jan. '79, dis new 103 Balley's "Vector" dis 2-840 Defance Adjustable dis 104 105 105 105 105 105 105 105 105 105 105
dis endes	"Eureka" Gimlets	White's Stiding Head Picks of doz so 50 dis to 5	Defiance Adjustable dis socito
dis 15 % dis 20&10 % dis 70&10 %	Sair and spike,	Wood Head Picks, Sargent's & doz \$1.00 dis 20 \$	
dis 65&10 %	Double Cut, Martwell'sdis 10210 9	los Mallets. Pick in head dos \$1.25 dis comio \$	Plane froms, Auburn Tool Co.,dis & & 10 %
dis bodts 1	Bouble Cut, Douglass'dis 40 9	lee Mallets, Pick in Handle doz \$3.00 dis 14 % lee Axes, Small Cast or Mallenble P doz \$1.20 dis 10 %	Fine Irons, The Globe Mfg. Cu., "Baldwin
dis 6 & 5 5		Combination les Toois	Plane I con Sendusky Tool On dis 2 410 5
1	Tinned and Enameled	tce ('ream Freezers.   di2 10 %   Torrey's   di8 40 %	Pilers and Esppers.
dis45 %	Family, L. F. & C. & "Handy "dis 30 %	Packer'sdis 40 %	Hatt's rat _ompound Lever Cutting Nippers, No. 2,
]	Grindstone Fixtures. Sargents Patent	lce Cre-pers. Safety keversible	Finne Irons, Butcher's \$4.00 is \$6.20 for \$7 plane Irons, Butcher's \$6.00 is \$6.20 for \$7 plane Irons, Auburn Tool Co. \$6.00 for \$7 plane Irons, Auburn Tool Co. \$6.00 for \$7 plane Irons, The Globe Mfg. Co., "Esdawn Irons Irons, Co., "Isolate Res to \$7 plane Irons, Oslio Tool Co. \$6.00 for \$7 plane Irons, Oslio Tool Co., \$7 plane Irons, Oslio Irons, Os
dis 45 %		Aretic Solid gross \$30 ; dls 10 %	gureka Pilers and Nippersdis 40 %
\$10.50, dis 45.5 \$10.50, dis 45.5 dis 20.0 5	U. M. C. B. E., 11 up	champion dos \$6.co dis 20&10 \$	P. S. & W. Cast Steeldis 33/4&10 \$
dis 208 10 %	U. M. C. B. E., 98:10	Family	P. S. & W. Hinners' Cutting Nippers, add 6 %, als 10 % Plumbs and Levels.
tern. dis 30 %	Gan Wada. U. M. C. B. E., 18 up	Bruss, 7 to 13 inches inclusive P h asc net	Disson's de Levels dissable dis 62 to 8 Stanley R. & L. Co. 8 Pat. Adjustable dis 62 to 6 Stanley R. & L. Co. 8 Non-Adjustable dis 62 to 6 Chapin's Patent Adjustable dis 62 to 6 Chapin's Non-Adjustable dis 62 to 62 to 6 Chapin's Non-Adjustable dis 62 to 62 to 6 to 62 to 63 to
	U. M. C. P. E., 748 4.90)	Knives.	Stanley R. & L. Co.'s Non-Adjustabledis 05210 >
dis 55 %	finitera.	R 11 ves.   dis 20 5	Chapin's Non-Adjustabledis occios o s Chapin's Non-Adjustabledis occios o s Standard Rule Co.'s New Adjustabledis occios Standard Rule Co.'s Non-Adjustabledis occios
dis 55 % dis 55 %	Covert's Pat. Ropedis 50 % Horse and Cattle Ties Covert'sdis 50 %	Moran's Shoe and Bread Knives	
ers. dis 50& 5 de. dis 50& 5 de. dis 50& 5	Hammers.	Table and Pocket	
rise no 4	### Maydole's	Carriage (Jap'd Soc W gross) dis todijo %	Post Hole and Tree Augers. dis 20 %
dis 30 %dis 40 %dis 25 %	HUIDASOB & BECKEY	Hemacite Door Knobs new list dis sokes	Pock t Levels. dis bakic 6 Davis' inclinometers. dis bakic 6 Post Hole and Tree Augers. Samson Post Hole Digger. 9 d z \$37.00, dis 20 6 Fletcher Fost Hole Augers. 9 doz \$30.00, dis 20 4
	Magnetic Tack, Non. 1, 2, 3, \$1,26,1 so and 1,75 dia ask 10.5	Door Mineral Door Por. Jap'd Door Por. Plated Same discounts as Door Locks.	6 in., \$25,00; 7, 8 and 9 in., \$25,00 W dosdis 20&10 \$
dis 10 @ 20 %	Neison Tool Works. dis ¿câto 5 Warner & Noble's dis ¿c Yerkes & 'l'umb dis ; Wilkinson's Smiths' 115e ¥ B net	Door Por. Plated Same discounts as Door Locks.	Eureka Diggers 2 dos 827.00net
g.Co.qis 33\5 5	Yerkes & Plumb	Purniture Plain	Leed's each \$2.50. Let Pruning Hooks and Shears. Diston's Combined Pruning Hook and Saw,
y'sdis 10 1	Hand Cuffs and Leg Irans.	Picture, Judd's	Diaston's Combined Pruning Hook and Saw,
	Hand Cuffs and Leg Irons.  Providence Tool Co., Hand Cuffs, \$15.00 \$\pi\$ dos.dis 10 \$\frac{1}{2}\$  Providence Tool Co., Leg Irons, \$25.00 \$\pi\$ dosdis 10 \$.	Picture, Sargent's	Disaton's Combined Fruning Hook and Saw,  Disaton's Pruning Hook
# # 5 0	Towers	Shutter, Porcelaindis toft 10 %	Pruning Shears
	Handles, Door or Thumb Latches.	Ladles	Duniap's Saw and Chisel des \$5,00, dis 10 %
87.50, dis 10 %	Nos 0 1 3 3 4 Per dos 0.50 1.00 1.18 1.35 1.6dis bokio 5		Pulleys. Hot House and Tackledis 65&10 \$
dis 5: \$10 \$	Bronze Iron Drop Latches	Lanterna.	Jap'd Screwdis 6ckto 5
dis 25 % dis 25 % Bro.co, dis 24 %	Jap'd Store Door Handles-Nuts, \$1.62; Plate. \$1.10; no Plate. \$0.88	Tabular	hras Screwdis 704:10 \$ Jap'd Sidedis 564:10 \$
\$10.00, dis 24 \$	Per dos.   \$0.80   1.00   1.18   1.55   1.40   dis bokzo S. Roggin's Latches.   \$\psi\$ dos \$\psi_c\$ so not het Brunze Iron Drop Latches   \$\psi\$ dos \$\psi_c\$ so \$0.5 not Jap'd Store Door Handles—Nuts, \$\psi_c\$. (2) Flate, \$\psi_t\$. (3) In 12 Z Rarn Door   \$\psi\$ dos \$\psi_t\$. (3) dis bokzo S. Wrought Obest   \$\psi_t\$ so \$\	Meteor	Hay Fork, Solid Eye \$4.50; Swivel, \$c.co, dis control
net	Surface Chest	With Guards see extrs   100	Lap'd Side
bet	Liftingdis 55 Etc S	Brady's Patentdis tok to %	Director and the second
din as f		Vankee dis tokto 5	Ownshan
	Boynton's Loop Saw Handtes	De Beaue	Roll or Drive Midde to see a see and and
dis 25 5 dis 33 5 5 dis 33 5 5 list net dis 25 5	Surface Chess	De Beque. Police Small, \$0.35; Med., \$7.50; Large, \$10.00, net	Bells or Drive

883.

ce of 1881,

58ta %

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\$ 10 % \$ 10 %

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10 % 10 % 10 %

45 % 45 %

125

20 % 20 %

8pring	Shovels and S
Spring, Leach's Patent. # doz \$7.00, dis 50&7% \$ Spring, Leach's Patent. dis 12 Bemis * Cail Co.'s Spring and Check dis 40 Solid, Tinners' # doz \$1.44, dis 40 \$	Shovels and S ames, New list, Ju 3riffiths.
Bemis * Call Co. * Spring and Check.  **Floor * Check.  **Sidding Door, Wrought Brass * * **D 43c, dis ac **Sidding Door, Bronzed Wrt. Iron * **foot 12c. dis ac **Sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. * rainted ***Foot ac dis ack **sidding Door Iron. ***Foot ac dis ack **sidding Door I	Old Colony
Hiding Door, Bronzed Wrt. Iron # foot 12c. dis 35 % Sliding Door Iron, rainted # foot 4c. dis 10k 10 %	Rowland's
Per 100 feet \$2.50 3.50 5.50—dis 10 5	tron and Brass Hes Iron and Brass Hes Polished Steel, new
B. D. for N. E. Hangers—  Per 100 feet \$2.00  Med. Large.  Per 100 feet\$2.10  Z.70  Terry's Wrought Iron, 50e \$ foot	States.  Square Frames, by Less than a case.
T. D. Towner Dayon Co.	Singke Shaves.
Genuine Emersondis 45 *	Deflance Metallic
Rasser   Strope	Wood Bailey's (Stanley R. Stearns'
Hunt's	Spoke Trimme Bonney's Stearns' Ives'No. 1, \$ Douglass'
Torrey's	Ives'No. 1, \$
## Note: display the control of the	Spoons.
NOS. 7 8 9 10 11 12 13 14 15  * B. AGC 500 520 540 550 580 500 6 50 700	Basting. Riveted Table and Solid Table and Te
	Britanula Reed & Barton Holmes, Booth & H
Stair, Brass	Cast Steel, Silver P
Rotlers.  Barn Door, Sargent's list	Reed & Barton Holmes, Boeth & H German Silver P Tin (P. S. & W.), Tet Tin (P. S. & W.), Ta Tin (Cowles Hdw. C Tin (Cowles Hdw. C
Acme (Anti-Friction)	Tin (Cowles Hdw C Stocks and Die Lightning "Screen
Manila	"Lightning" Screen
Manila, Tar'd Lath Yarn & D 15/90 Manila, Hay kope & D 15 c	Hindostan No. 1, 66 Hindostan Hacker Sand Stone
Steal	Sand Stone. Washita Stone. Washita Stone. Washita Stone, Sili Arkansas Stone No Arkansas Stone No Turkey Oil Stone (C Turkey Silps (Chase Lake Superior (Lha Lake Superior, Silp Grindstones, Famil
Signi. Hay Rope	Arkansas Stone No Arkansas Stone No
Chapin's dis 70&10 % dis 45&10 %	Turkey Oil Stone (C Turkey Slips (Chase
Stephensdis 70&10 \$dis 558	Lake Superior, Slip Grindstones, Famil
Self-Heating W doz \$0.00 net	Stove Polish. Joseph Dixon's Gem. Gold Medal. "Mirror". Ruhy
Gleason's Shield and Toilet	GemGold Medal
Mrs. Pott's Irons Square Backdis 35 % Enterprise Star Irons, new list, July 20, 1882dis 35 %	Ruby
Chinese Lau dry (N. E. Butt Co )	Rising Sun. Dixon's Plumbage. Eoynton's Noon Da small, \$3; No. 3,
Bacder & Adamson's Flint, oo to 114. \$4.75 \( \text{Fream} \)	Squares.
Bacder & Adamson's Flint, Assorted. 475 # ream Bacder & Adamson's Star	Steeldi Irondi Nickel Plated Try Square and T E
Bartles Flint	Try Square and T E Disston's Try Squa Winterbottom's Tr
Staphens. dis 7c&10 % dis 5c\$ Staphens. dis 7c&10 % dis 5c\$ Staphens. dis 7c&10 % dis 5c\$ Staphens. Pom 3/4c net Belf-Heating. P doz \$0.00 net Belf-Heating. P doz \$0.00 net Belf-Heating. P doz \$0.00 net Gleason's Shleid and Toilet. dis 2x 5 Mrs. Pott's irons, Doubled Fointed. dis 2x 5 Mrs. Pott's irons Square Back. dis 7c\$ Srs. Fott's irons Square Back. dis 7c\$ Sompfied Finter and Sad Iron. degree dis 5c\$ Substitution of State Co. dis 7c\$ Substitution of Sta	Tacks, Brads, New List, Sept.
Common	Tinned Swedes Tac
Sass Cora.    Sass Cora.   Sass Cora.	American Cut Tack Copper Tacks and
Haw Hide, # foot, ½ in., 5c.; 5-16 in., 7c.; ½ in., 10c.	Swedes Hungarian Gimp and Lace Tac
Steel Ribbon	Winterbottom's Tr Tacks, Hrads, I New List, Sept. Tinned Swedes Tac Tinned American T Swedes Tacks, all k American Cut Tack Copper Tacks and J Swedes Hungarian Gimp and Lace Tac Gimp and Lace Tac Finishing Nails. Trunk and Clout N Common and Pates
Pash Locks.         Clark's. No. 1, \$10.00; No. 2, \$8.00 per gross.         dis 33/4 %           Ferguson's.         dis 33/5 %           Walker's.         net	
Hammond's Window Springs	Brush Tacks Leathered Carpet I Cigar Box Nails Chair Nails Double-pointed Tac
The Perfect, Clark & Smith, Por. K'b Jap. # gro. \$14 net The Perfect, Clark & Smith, Por. K'b Jap. # gro. \$14 net The Perfect, Clark & Smith, N.Plated # gro. \$27.00 net	Chair Nails Double-pointed Tac
"Universal"	Tap Borers. Common and Ring. Ives' Tap Borers. Enterprise Mfg. Co. Tapes, Measur American.
Manage Stuffers or Fillers.  Miles "Challenge"	Enterprise Mfg. Co. Tapes, Measur
Walker's.  Rammond's Window Springs.  dis 25% Northup Window Springs.  No. 1, \$10.00 \$ \$708. dis 15.% Northup Window Springs.  So with Plain Jap. \$707. \$10.00 \$ \$708. dis 15.% The Perfect, Clark & Smith, Plain Jap. \$707. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$708. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$708. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$708. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$708. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$708. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$709. \$10.00 net The Perfect, Clark & Smith, Por. K'b Jap. \$709. \$10.00 net The Perfect Clark & Smith, Por. K'b Jap. \$709. \$10.00 net The Perfect Clark & Smith, Por. \$700. \$709. \$10.00 net The Perfect Clark & Smith, Por. \$700. \$700. \$700. \$100. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$700. \$7	Spring. Chesterman's. Thermometers.
Silver's	Tin Case
Disston's Hand, Panel, Rip, &c	Tin Case
Boynton's Ice	All Iron. Nashua Lock Co.'s. Wilson's.
Wheeler & Clemson Mfg. Co. 's Hand	Tee Calus. Winsted
Livington's Framed Wood— Nos 101 102 103 104 105	Machines (P. S. & W.
Peace Circular and Mili	Nashua Lock Co.'s. Wilson's Clipper (Sargent & c'Tee Callas. Winsted Tinners' Tools Machines (P. S. & W Trausom Litte Wollensak's Patent Reiher's Patent, ne Excelsior Trauss.
Peace Cross Cuts. dis 10 % Richardson's Circular dis 40 %	Excelsior
Richardson's Hand Panel, Butcher and Web Saws	Game, Oneida Patte Game, Blake's Pate
Livington's Framed Wood- Nos 103 104 105 105 105 105 105 105 105 105 105 105	Excelsior. Trabes. Game. Newhouse. Game. Oneids Patte Game. Blake's Pate Mouse. Wood. Chok Mouse, Round Wire. Mouse. Catch-em-al Mouse. Bonansa" Rat. "Decoy". Treweis.
Hed., Pollaned and Variasied	Mouse, Catch-em-al Mouse, "Bonanza"
per dos, \$10.00	Rat, "Decov".  Treweis. Lothrops' Brick and Reed's Brick and Pl Disston's Brick and Peace's Plastering. element & Maynard Rose's Brick. Brades' Brick Worrall's Brick and Garden.
Common Lever	Disston's Brick and Peace's Plastering.
Mach's	Rose's Brick Brades' Brick
Bemis & Call Co.'s Lever & Spring Hammerdis 30&5% Bemis & Call Co.'s Plate	Worrall's Brick and Garden
Aiken's Genuine\$13.co, dis 50&10 % Aiken's Imitation	Triers. Butter and Cheese. Trucks (Warch Penfield Block Co.'s
Hart's Patent Lever	Vises.
Scales. Hatch, Counter, No. 171	Solid "Crown" (A. Solid, Peter Wright
Morrill's   No. 1, \$12 No. 5, \$2, dis 2025	Penfield Block Co.'s V 1889. V 1899. V 1899. V 1899. V 1899. V 1899. V 1899. V 2010 Peter Wright Solid, Wikinson's. Parallel, Parker's. Parallel, Wikon's. Parallel, Merrill's. Parallel, Backus an Parallel, Backus an Parallel, Backus an Parallel, Double Scr Parallel, Prentiss. Parallel, Prentiss. Parallel, Simpson's. Family, "List. Saw Filers, Bonney's Saw Filers, Bonney's Saw Filers, Hopkins Saw Filers, Hopkins Saw Filers, Reading Cowell Hand Vises. Richardson's Vise at Washer Cutter
Richió Bros	Parallel, Howard's
Howe'sdis 20210 %  Chatillon's Grocers'	Parallel, Backus and Parallel, Oval Slide.
Chatillon's Eurekadis 25 5 Family Universal, 12 B, \$30; 24 B, \$36net	Parallel, Double Scr Parallel, Prentiss
Family, Turnbull's	"Family," List Saw Filers. Bonney'
Scrapers.	Saw Filers, Stearn's Saw Filers, Hopkins
Box 1 Handle	Coweil Hand Vises. Richardson's Vise at
Bhip, common	Washer Cutter Smith's Patent.
Rerapers, Adjustable Hox Scraper (S. R. & L. Co.), \$6.50, dis 2082125 BOX 1 Handle	Washer Cutter Smith's Patent Johnson's Penny's & Ø da Appleton's Washers & See N Well Wheels
BCLCM ILLIAGLE.	Well Wheels
Buck Bros dis 25 g	Well Wacels Wire. Brass and Copper Market, Bright and A. Market, Coppered Market, Galvanised. Market, Tinned, Tin Stone, Bright and A. Stone, Bright and A. Stone, Galvanised, N. Stone, Tinned, Tinned, Tinned, Tinned, Tinned, Tinned, Tinned, Broom Wire. Cast Stee: Wire
Muck Bros.  dia % 5 Nambey Bule & Level Co.'s, Varnished Hdis. dis 60% to 5 Stanley Rule & Level Co.'s, Biack Handles. dis 60% to 5 Stanley Rule & Co.'s.  dis 50% to 5 Say's Double Action Ratches	Market, Coppered Market, Galvanized. Market, Tinned. Tin
Bay's Double Action Ratches  # dos, 4 in., \$0.00; 5 in., \$10.20; 6 in., \$12.00—dis 35 \$  Mallett & Co.'s Double Action Clutch  # dov., 4 in., \$7.00; 5 in., \$2.00; 6 in., \$0.00—dis 45 \$  disc. \$2.00	Stone, Bright and An
# dor, 4 in., \$7.00; 5 in., \$6.00; 6 in., \$0.00—dis 15 g Champion	Stone, Galvanized, N Stone, Tinned, Tinne
Screws. Clis 25 5	Tinned Broom Wire. Cast Steel Wire. Annealed Fence, Nos Annealed Grape, Nos
Round Head Iron, new list, Dec. 27, 1882dis 45&10 8	Annealed Grape, Nor Pence Staples Fence Staples Galva
Brass and Silver Capped	Fence Staples. Fence Staples. Galva Stubs Steel Wire Japanned Barb Fence Galvanised Barb Fence
onach, Patent Gimlet Point. og 10 h, by the keg, dis 70 %	Galvanisci baro rei Steel Music Wire, No Picture Wire, T. S. & Clothes Line Wire, G Wire Closs, green, d
Machine, Round Head, Irondis 50 %	
Bench, Wood, Beech.         \$\psi\$ dos \$3.00, dis 10 \$5           Bench, Wood, Hickory.         dis 20\$10 \$5           Band, Wood.         dis 20\$10 \$5           Band, Wood.         dis 20\$10 \$5           Hand rtail, Sargent's.         dis 60%210 \$5	American Adjustable Baxter's Adjustable
	Baxter's Diagonal Coes' Genuine. Coes "Mechanics" Coes' Pattern, Malles Coes' Pattern Wroug
Ack (Wilson's)	Coes' Pattern, Malles Coes' Pattern Wrong Girard Standard
Screw Window Balancies. R. B. Huganin's, No. 1, \$2.10; No. 2, \$1.75; No. 3 \$1.60 done  Screet Saws.	Girard Agl. Girard Agl. Bemis & Call's Paten Bemis & Call's Merrie Bemis & Call's Brigg' Bemis & Call's Cylind Van Wagoner & Willi Alken Pocket (Bright The Favorite Pocket Webster's Patent Co
Bereil Maws	Bemis & Call's Brigg's Bemis & Call's Cylind
Shears and Scissors. dis 70870&10 \$ Imerican (Cast) Iros. see Pruning Books and Shears.	van Wagoner & Willi Aiken Pocket (Bright The Favorite Pocket
sarnard's Lamp trimmers	TOURSEL D'A MICHE COI
Serial   S	Universal, XX, No. 23 Universal, XX, No. 2 Universal, XX, No. 1
fass. Cutlery Co. St. Trimmers	Universal. XX, No. 1. Peerless, no Cegs, No. Peerless, with
Hiding Door, M. W. & Co. listdis 44&3 \$	Wilngera. Universal, XX, No. 2) Universal, XX, No. 2) Universal, XX, No. 1. Perfess, or Cogs, No. Peerless, with Cogs, Peerless, with Cogs, Peerless, with Cogs, Peerless, Wilh Cogs, Peerless, Wilh Cogs, Peerless, No. 2
liding Door, Patent Roller, Hatfield's dis foct tok: \$ liding Door, Russell's Anti-Friction dis foct tok: \$	Peerless, with Cogs, believes, with Cogs, believes, with Cogs, believes, No. 2, for Cogs, bowlety No. 3, for Cog Novelty No. 3, for Cog Excelsior No. E, for Sexelsior No. A, with Excelsior No. A, with Excelsior No. B, with
HIGHER DOOF, MOOFE'S Anti-Friction	Excelsion No. 2, for S
fiding Shutter, R. & E. list	Paceagon tree of the

	7	7
48	Shovels and Spades, ames, New list, July 1, 1881 dis 10 % jrimiths dis 50 % jid Colony dis 1, ** Payne Pettebone & Son, new list dis 50 % Payne Pettebone & Son, R. R. Shovels dis 50 % emineton's (Lowman's Patent). dis 50 % Rowland's dis 50 % Shovels and Tesgs E list dis 50 % Shovels and Tesgs E list dis 50 %	Ī
0 %	3rimths dis 60 % Old Colony. dis 15 % Payne Pettebone & Son, new list. dis 40&10 %	
9 9	eminoton's (Lowman's Patent). dis 30 %	
0 \$	Iron and Brass Head, P. S. & Wdis sock&10 %	-
101	Slates.  **Rquare Frames, by case.  **Less than a case.  **Spoke Shaves.  Defiance Metallic.  dis 20&10 %  Iron.  dis 45 %	
5 R	Defiance Metallic	
999	From dis 45 % Wood dis 50 % Bailey's (Stanley R. & L. Co.), new list. dis 30 % Bailey and the space of the sp	
% 0%	Spoke Trimmers   # doz \$10.00, dis 40&5	A
0 %	Deuglass'	8
0 %	Riveted Table and Tea. dis o.c. is Solid Table and Tea. dis 6.&70.&5 Solid Table and Tea. dis 6.&70.&5 Solid Table and Tea. dis 6.&70.&5 Solid Table and Tea.	0
	Holmes, Booth & Haydens dis 40% row 5 S German Silver dis 30% row 5 S German Silver dis 30% row 5 S	h
N C	Speems	9
B	Tin (Cowles Hdw Co.), case lots	
60 60	Siene.	-
6000	Sand Stone	
	Arkansas Stone No. 1. 4 to 6 in	1
55	Turke'y Slips (Chase)	
et	Stove Polish	
MAN MI	Gold Medal   # gross \$0.00, dis 25 %   "Mirror"   # gross \$0.00, dis 25 %   "Mirror"   # gross \$0.00, dis 25 %   "Mirror"   # gross \$3.75, Bet	1
MANA	Rising Sun	
408.5 S	small, \$3; No. 3, medium, \$4.  Squares. Steel	
. «	Squares. Steel	
***	Winterbottom's Try and Mitre	8
et	Winterbottom's Trv and Mitre. dia 20%10 \$  Tracks, Bruds, &cc. New List, Sept. 1, 1882. Tinned Swedes Tacks. dis 30 \$  Tinned American Tacks. dis 30 \$  Swedes Tacks, all kinds. dis 50 \$  Swedes Tacks, all kinds. dis 50 \$  Swedes Tacks, all kinds. dis 50 \$  Swedes Hungarian Nalls. dis 50 \$  Gimp and Lace Tacks. dis 50 \$  Finishing Nalls. dis 50 \$  Finish Tacks. dis 50	9 6
* * * *	American Cut Tacks dis 30 % Excopper Tacks and Nails dis 35 % Swedes Hungarian Nails dis 35 %	8
*	Gimp and Lace Tacks, Tinned dis 30 % of Finishing Nails dis 25 % of Finishing Nails di	
% et %	Common and Patent Brads	F
et et	Leathered Carpet Tacks	6
et %	Tap Borers. Common and Ring. lives Tap Borers. Enterprise Mfg. Co. Tapes. Measuring. American. Spring. Chesterman's. Chesterman'	1
MMM	Enterprise Mfg. Co	F
* * *	Spring	8
MMMM	Tobacce Cutters. Enterprise Mg. Co. (Champion) dis 2c&10 % Wood Bottom	F
20.00	All Iron # dos 88.5; dis 15 % Nashuh Loek Co.'s. # dos 818.00 dis socte 5 Wilson's.   dos 818.00 dis socte 5 Wilson's.   dos 818.00 dis socte 5 Wilson's.   dos 818.00 dis socte 6 Wilson's.	0
MMM	Chesterman's requiar list dis 20023 5 Thermometers dis 74&10 € Tobacco Cutters dis 74&10 € Tobacco Cutters dis 74&10 € Enterprise Mfg. Co. (Champion) dis 26x10 € Wood Bottom # dos \$1x.00. dis 25x10 € Wood Bottom # dos \$1x.00. dis 25x10 € Wilson # dos \$1x.00. dis 25x10 € Nashus Lock Co. * # dos \$1x.00. dis 26x10 § Wilson * dos \$1x.00. dis 26x10 § Cilipper (Sargont & Co.) # dos \$1x.00. dis 26 x10 % Tee Calias # b 9e, dis 5 Tinners Tools and Machines, Machines F. \$2x & W. dad 6 § Transom Litters, Wolfensak * Fatent, new list, Feb. 1882. dis 26x10 5 Excelsion. dis 26x10 5 Excelsion. dis 26x10 5 Excelsion. dis 26x10 5 Excelsion.	C
MM	Machines (P. S. & W.)	
MMM	Rether's Patent, new list, Feb., 1882dis zo&ro&ro g Excelsiordis so&ro&ro g Traps.	-
* *	Excelsior	4
250 250 250 250	Mouse, Round Wire. # doz \$1.50, dis 10 % Mouse Cage, Wire. # doz \$2.50, dis 10 % Mouse. Catch-em-alive. # doz \$2.50, dis 10 %	r
N.N.	Mouse, "Bonanza" per gross 510 oo net Rat, "Decoy" doz \$10.00, dis 10 \$  Trewels. dis 25 \$  Lothrong Brick and Plastering. dis 25 \$	E
MMM	Trewels.   Lothrops   Brick and Plastering   dis 25 3   Reed's Brick and Plastering   dis 15 5   Disston's Brick and Plastering   dis 25 2   Peace's Brick   dis 25 2   Diston's Brick	0
MMMI	Element & May Bard's         dis 20 %           Rose's Brick         dis 15 %           Brades' Brick         dis 20 %           Wowell's Brick and Plastering         dis 20 %	5
MMMM	Garden         dis 55%           Triers         Butter and Choese         dis 25%           Trucks (Warchense, &c.         penfield Block Co.* Blst, 1882         dis 35%	-
MMMI	Trucks (Warchouse, &c. Penfield Block Co.'s list, 1882	
*	Views   Views   dis 35 %   Solid "Crowa" (A. H. Hildick)	
XXX	Parailei, Parker's. dis of Parailei, Wison's dis 35 to 5 Parailei, Howard's. dis 25 to 5 dis 25 to 5	
AMMA	Parallel, Merrill's	
KtK	Parallel, Double Screw Leg. dis 1:42:0 5 Parallel, Prentiss. dis 2:5 Parallel, Simpson's Adjustable. dis 2:65 dis 2:65	
8	"Family." List	•
N M M M	Solid "Crown" (A. H. Hildick) 40 to 100 h, 150 net Solid, Peter Wright's 15\( \) 15\( \) 25\( \) 25\( \) 25\( \) 25\( \) 35\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \) 25\( \)	ac
K C K	Washer Cutters. \$\pi\$ dos \$12.00, dis 25 \$ Johnson's. \$\pi\$ dos \$11.00, dis 33\frac{1}{2}\$\$	W it
5	Penny's \$\P\$ dos Pol. \$17,40; Jap'd, \$16,50, dis \$4 \text{Appieton's \$\P\$ dos \$16,00, dis bo\$10 \$7 \text{Washers.}\$-See Nuts and Washers.	
NAME	Wire. Brass and Copper	-
6 6 6	Market, Coppered. dis 47% 6 sc 5 Market, Galvanised. dis 42% 6 45 5 Market, Tinned, Tinned liss. dis 4: 6 47% 5	(
	Stone, Bright and Annealed, Nos o to 18, 41s cc 6, 57% to 5tone, Bright and Annealed, Nos. 19 to 26, 41s 65 66 67% \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	
	Wire.  Brass and Copper.  Market, Bright and Annealed dis 1246 6 16 Market, Coppered dis 1246 6 16 18 Market, Tinned, Tinned list dis 124 6 17 18 Stone, Bright and Annealed, Nos o to 18 dis 126 124 18 Stone, Bright and Annealed, Nos o, 10 to 20. dis 60 16 10 10 10 10 10 10 10 10 10 10 10 10 10	0
	Annealed Fence, Nos. 18 6 9	TO
	Stubs Steet Wire	AE
	Siees Husic wife, Nos. 7 to 30	of ber
	Baxter's Adjustable " 8." list Jan., 1880dis 2045 5	BC Ice ap
	Baxter's Diagonal   dis 2084 9	
0	Coes Pattern, malleadie. dis 75 % Coes Pattern Wrought dis 60 6 6 5 Girard Standard dis 60 3 Girard Agi. dis 60 3	
	Bemis & Call's Patent Combination	Sar by AS
	Van Wagoner & Williams' Basin	A
1	Webster's Patent Combination	131
	Universal XX, No. 2 45,00 2 2 5 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	H
	Peerless, with Cogs, No. 3\(\frac{1}{2}\)	6
1	Webster's Patent Combination. dis 25 %  Wringers. Per dos. Universal, XX, No. 24 45.00 Universal, XX, No. 25 45.00 Universal, XX, No. 15 50 Univer	V
1	Excelsion No. E. for Stationary Tubs\$41.00   60	-

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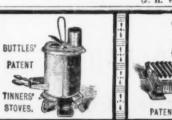
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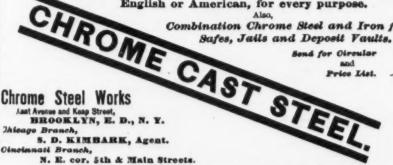
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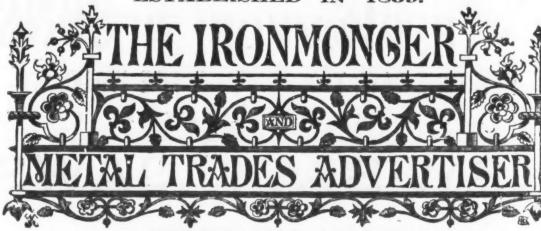
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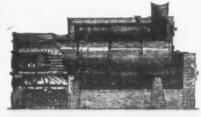
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mayer x Loose Joint   dis cokro 5
Blind Butta. Parker
Charles - German Haiter and Coll. list December 31   1851
Ohtsels.—Socket Framing         dis 6-&:0 \$           Bocket Firmer         dis 6-&:10 \$           Butchet*         \$co to \$ groid           Casters.—Bed (new list July 1, 1880,)         dis 4-&:10 \$
Casters.—Bed (new list July 1, 1880,)dis 40&10 \$ Plate
Plate. dis 20210 5  Geffee Mills.—Box and Side, new list Jan. 1.  180. dis 45 8  Enterprise. dis 25  Cuttery.—Walden Pocket. new list net Penna Knife Co. new list net Landers, Fra y & Clark, J. Russell & Co., Lamona & Goodnow Mfg. Co. and Meriden Cuttery Co., Manu- facturers' prices net.
Penna Knife Co
Hart Mfg. Co.'sdis 6s&10 %
Adjustable Handiedis 20 %
Tinaed
Wiles
Nicholson
Salezaer   Flusting Machines   Eagle-34-14, roll   2.85, dis 25 2   Crown -45-14, roll   2.85, dis 25 2
-6 in. roll
Favorite com Fluter & Sad Iron doz \$10.50 Bet
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Bownton Loop Handles Crosscut

	Round Head Brass, new list Dec. 27dis. 40 & 10 % Round Head Iron, new list Dec. 27dis. 45 & 10 %
-	Plateddis 40, 10 & 4 \$ German Silverdis 30 & 70 \$
	Britannia, Boardman's
1	Tinneddis to %
١	Marings. Torrer
	Gem No. 3 small Jap'd \$2.00 dia so & 10 %
	No. 2 medium Jap'd. 2.75 \ 36.00 Cotl No. '0, per gross net . 36.00 Other Standard Springs
	Warner Door Springs, per dos. net 1.75
	Standard Spring Hinges
)	Other Standard Spring Hings dis refer of
)	Stove Polish Gem
3	Fire Fiv 8.00. QFS 105
	Tacks
)	Tacks
	DOUDLE PULLERY THURS
	Trape.
į	Im. Oneida—Newhouse list first anal ais subt @ 60 d
	######################################
	Wrenches, -Agriculturaldis 70 \$
	Coes' Genuinedis. coe3 %
Š	Mail. Bardis. 50&10&3 %
6	Wire.
E	Bright or Ann'd, No. o to 18dis 5234 to 55 % No. 19 to 26dis to to 6234 \$
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2	Coppered, o to 18
š	Galvanised Barb Wire
b	Fainted Barb Wire
Ĺ	Peeripas No. 214
	Universal No. 256
	Novetty No. 2, for common tubs
	Excelsion E. for stationary tubs,
1	In lots of 1 doz. \$3.00 doz, dis. from above price.
	PITTSBURGH.
1	Merchant Iron.
6	merchalt fron.

Merchant Iron.
TERMS.—Note or acceptance at 60 days, with current rate of exchange on New York, or a discount of 2 per cent, for cash, if remitted within 10 days from date of invoice.
E 0-4-41

For	fluctuations	and dis	counts
on ca	rd rates see	weekly	Pitts.
burgh	Trade Repo	ort.	~ 1000
The ful	lowing are card rates	7 A 00	

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and 116 by 36 to 36 "	Spiral and Taper, cu
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to ald	1 and 13-10x 4 and 5-3
374	% and %x16 and 3-32
to 1 3.50 5.16 3.10 (to 5 4.00 ) 4 3.50	Solid Safe Cast Stee
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to 84	Horse Rake Steel, g.
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	Thrasher Steel
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the family to a st	" Teeth
6 to 6 by 16 to 3-16	Rolled Hammer Bit

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4 to 4, Nos. 13, 14 and 15	***************************************	
5-10 1, and 154. Nos. 13,14 an	de	3.00
6-16. I. and 116. Nos. 16 12 an	A +8	3.50
10. 1. and 136, Nos. 16, 17 and 136, Nos. 19 and 2	As affect creations	3.0C
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Nos. 16, 17 and 18		3.70
Nos. 19 and 30		3.80
No. 21	********** *******	*****3.90
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No. as.	**************	410
-16 Nos. 13. 14 and 15	*************	3.90
16, Nos. 10, 17 and 18		20.4xxxx
-16, Nos. 19 and 20	**************	4.IC
-16, No. 22	***************	430
Nos. 13, 14 and 15	***************	4.00
Nos. 16, 17 and 18	* ***************	4-IC
Nos. 19 and 20	***************	4.3C
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10, Nos. 13, 14 and 15	*****************	
-10. NOS. 10 BBG 20		4 40
-10. NO. 23		460
NOS. 13, 14 BBG 15		4.40
NOS. 15. 17 ADG 15		4.00
NOS. 10 8.DC 30		. 80
NO. 21		4.90
NO. 22		4 80
NO. 23		1 00
16. NOS. 13. 14 BRG 15		
10, Nos. 16, 17 and 18		4.70

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>10, NOS, 13, 14 BHG 15,
-10. NOS. 10, 17 and 18
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-16, No. 23
4 inch, Nos. 13, 14 and 15
" Nos. 16, 17 and 18
1 Nos. 10 and 20
2 " No. 21
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2 H No. 23
The prices under Hoop Iron do not apply to Cotton
ne.
1-10c per ib. extra will be charged for each gauge
ighter than the lightest indicated.
1-10c per lb. extra will be charged for cutting floops
o specified lengths.
Barrel Hoops.
rid to 2 in., out to length.
to 11 lbs, per set of 6 hoops
lbs, and less than 9 lbs. per set of 6 hooms
our than the new set of 6 hooms

to I lbs, per set of 6 hoops ilbs, and less than 9 lbs. per set less than lbs. per set of 6 hoops Extras for Cutting to Length all Iron, including Tire Trank Iron	all Precedin	3.6c
No. 9 and heavier	************	3.30
*low Slabs		9.60
" Wings Sheet Iron	***** ********	3.fe
Sheet Iron		
Common.	Charcoal.	Juniata.
No. to to 14	5.00	6.50
No. 15 to 173.80	5.30	6.6c
NO. 18 to 214.10	Elec	7.10
NO. 22 TO 34	6.80	7-30
Total and the selection of the selection	200	1030

NO. 22 10 24	- 2.
No. 25 & 26	2.
No. 27	9.
No. 18 46c	- 8.
All shee s No. 16 and lighter, over 30 inches	wic
not less than 2.10c extra.	
int quality (A)tolec   3d quality (B)	0
Galvanized C. H. B (Charcoal Hammered Bloc	ma
Nos. 14 to 20	1
Nos. 21 to 24	1
Non, 25 and 26 140   No. 20	.1
42% @ 45 \$ discount.	
Coal Screen Iron.	
186 by 86 by 6-16	2
Angle Iron.	
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Machiner	W Steel	
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16 **		200
Square, Flat and Octagon, st.		throughout the
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	Hammer Cast Steel. Crucible Cast Steel. 8%c Open Hearth Cast Steel. 7c Sheet Steel.—Crucible. 7c
-	Best, 2d Qual. 3d Qual. Open Hearth To 21 gauge 120 10 90 70 10. extra for each additional gauge. Cut to multiples or specified lengths, 1/60. extra.
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" forged to shapes
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Tire Cities Steel.
X'4 and over
X3-10, 36X3-10 and 14
and 12-10x1/2 and 5-32. %x3-10 and 6-32
s and %x3/s and 3-32 and 12 g.
Solid Safe Cast Steel.
Three and Five Ply Cast Steel
dorse Rake Steel, out to lengths, Crucible
doe. Crucible
Corn Stalk Cutter, beveled.
leveled Hoe and Showel Stock to Stock to
Seveled fice and Shovel Steel in Pars.
spring
fire. : -16 thick and above

Spring
spring spiral and taper, cut to lengths 4260
Tire. 2 -16 thigk and above
Tire.' -16 thick and above. 55cc Toe Cark 45cC  Plow 45cC
Plow4960
Plow
Slotch Shoe
Cutter Shoe cut to lengths and
Scythe Back Steel
Grain Drill Hars
Rolling Coulter Blanks, cut and
Rolling Coulter Bianks, cut and punched
Thrasher Steel
Rolled Hammer Billets
Rolled Hammer Billets 556
Terms Four months : 3 per cent, discount for cash.
if remitted within so days.
Purpage Pioce and Stand Castings.
Furnace Pioor and Straightening Plates 2
Housings and Castings not otherwise specified3 c

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18/2-A
White and fled Lead.
perictiv Pure White Lead in Oil. in kegs. 61/c.: in a
rate white Lead in Oil. in kegs, 64c : in
Palls, to # B over keg price; assorted, 1 to 5 B cans
over kek prior; assorted, I to 6 h cans
Dry White Lead in barrels
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Charleton a Leady DigC: 654
Freights equatized with all points where White
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Single Strps	igth.			
Size.	AA.	A	B.	C.
x 8 to 10 x 15	88.24	87.50	87.00	\$6.50
X 14 to 16 X 24	9.25	8.50	8.00	7.20
E 22 UO 20 X 30	10.75	9.75	8.75	7.79
K 30 to 24 K 30	12.25	10.74	0.00	8, 50
K 38 LO 24 X 30	13.00	11.50	9.75	9.00
K 30 TO 26 X 44	14.50	13.25	10.75	9. 60
K 46 LO 30 X 50	15.00	14-0c	11.26	10,40
E 52 to 30 X 54	16.0c	14 50	13.00	
E 56 to 34 Z 56	17.35	15.6	13.50	
E 48 to 34 K 60	18.25	17.35	16,00	
€ 60 to 40 # 60	30.74	18.74	17.25	
Double Strength.				
E 8 to 10 % 15	12.74	11.75	10.75	XOUGO
K 14 to 16 x 24	14.40	13-25	12.50	11.20
E 22 to 20 X 30	17.25	15.75	14.00	
1 36 to 24 × 30	19.75	17.29	14.50	
€ 28 to 24 x 36	21.00	18.5C	15.75	
E 36 to 20 X 44	33.25	21.25	17.25	
t 46 to 3: x 50	34,00	22, 40	18.00	
t 52 to 3c t 54	25-75	23.25	19.34	
t 50 to 34 x 96	27.75	\$5,00	21.76	
€ 58 to 34 x 60	29.25	27.75	24.0¢	
£ 60 to 40 x 60	33.25	30.00	37.75	

AB	additional	10 per	cent, v	will be	charged for a	11
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Hubb	ard, Bakewell & Co.'s Goods.
Axes, Bingle	Bit, LippincottPer doz. \$8.00
" Doub	le Bit, Lippincost " 15.00
Drain Tools	. 18tdls 20%
" Scovi	era'
Handles, Cr	led. Square Eye. German
Saws, Circu	ovel, Bent, Bored, Riveted " 2.50 dar
14 Long	Cut, H. B. & Co., Champion, Per ft.
nec	Cut. Lippincott, Champion, Per ft.
net	30 dia 20%
Spades, "Scoops.	dis 20%

# MFG. CO., POTTSTOWN, PA.

RAILWAY CARS & BRIDGE BOLTS. Car, Architectural and Bridge



## THE YALE CASTER.

A New Caster,

with at least ten distinct improve ments over anything of the kind here tefore made. For Furniture of a kinds, Flower Stands, Planos, Stove and Warehouse Trucks, and anything that needs a Caster.

Ten Sizes.

Six of the largest sizes now read and four more sizes will follow soon. Send for Circular.

YALE CASTER CO., New Haven, Conn.

HENRY B. NEWHALL CO., 105 Chambers St., New York, AGENTS.

See Iron Age editorial, March 22.

# GARDEN OR FARM BARROW With Jacobs' Patent Wheel.





FOLDED FOR SHIPPING.

These Barrows are made with double frames, bolted together, iron braced, and so constructed that by removing one bolt (the axie) and two nuts, can be folded flat down (see cut), and shipped as lowest rate of freight. But a mome nt's time is required to set up for use.

We also manufacture a full line of

RAILROAD, ORE, BRICK and STONE BARROWS. Also, Road Scrapers, Road Plows, Levelers. &c.

KILBOURNE & JACOBS MFC. CO., COLUMBUS. JOHN A. McCOSH, Sec. a d Treas. THOMPSON McCOSH, Pres



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# RAPID TRANSIT' TRAP

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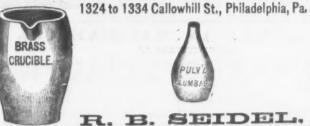
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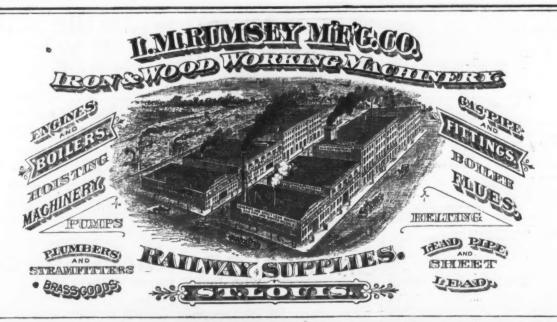
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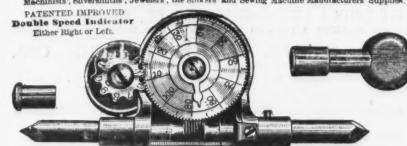
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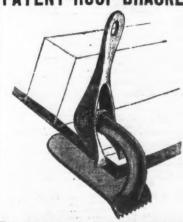
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Bronzed Shelf, M. B. & D., new list	30 5
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Casters.—Bed and Tabledis	
Chain — Traces 5% to 4 straight beair Traces 6%, to 4 straight pair Traces 7, 12 2, twisted. Ppair Traces 7, 12 2, twisted. Ppair Coll 4 Ppair Ppair Coll 4 Ppair	540 600 600

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	Ontiery.—Pocket American Shear Co.'s Butcher Knives Wood's, Lap Bolster, Square Handle Steak Knives Lap Bolster, Oval Handle Stecking Butcher, Common Round Handle, Wood's. Shoe Knives. Wood's.	o, alb
-	Square Handle	dis 30
	Lap Bolster, Oval Handle	dis 29
	Skinning	dis 20
	Shoe Knives. Wood's	dis 20
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	Dog Cellars.  Door Springs.—Torrey's Rod.  Imitation Torrey's Rod.  Gem Coll. new list.  Grown.  Warner's.  Door Steps.—Thurston's.  Drawer Knebs.—Thurston's.  Drawler More Pitts Stock.	e dos 8r.6
	Imitation Torrey's Rod	dos 1.4
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	Drills.—Morse Bitt Stock	dia so
	Drills,—Morse Bitt Stock	dis 26
	Walpole Emery Mills	# 10 fo
	Enameled Ware.—	
	Moree Straight Shank.  Emery.—Wellington Mills.  Walpole Emery Mills.  Turkish in 10 6 cans.  Enameled Ware.  Standard Mix. Co. Rettles.  Standard Mix. Co. Rettles.  Glischer Green	10 10 10 10 10 10 10 10 10 10 10 10 10 1
	Felloe Plates.—Wrought	P B
	Nicholson File Co	dis 5:1
	American list, \$2.40	dis 20 9
	Forks,-W. C. & Co. Manure	dis 90 j
	Genuine German, No. 125, 1-52 to 8-32, per	don St.q
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Γ,	Hangers & Reliers, Anti-Friction Acme Rollers Climar Common Hangers Common Rollers	dis so s
Ġ	Acme Rollers	dia so s
	Common Hangers	dis 40 %
9	Underhill	dia 3314 %
-	Hay Knivrs.—Lightning # dos.: Fisher's Patent	Rittor, gast
h t.	Hinges.—Strap and T (new list) Providence Plate.	dia 60 %
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	H nobs. — Norwalk. New list	dia 45 %
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	Railroad, Oil, No. 43.	dos 4.00
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	14 in. cut	ch & w
	18 in. cut	oh. 9.50
1	Pine	E - 484-
ı	LocksNorwalk	.dia 45 \$
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1	Lorks.—Norwalk Eagle Cabin t Eagl Trunk W. Wilcox & Co., Padiocks. W. Micox & Co., Co. & Co.	dia de s
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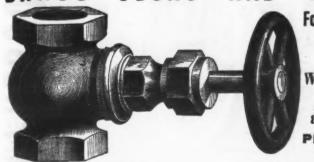
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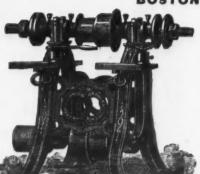
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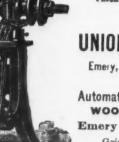
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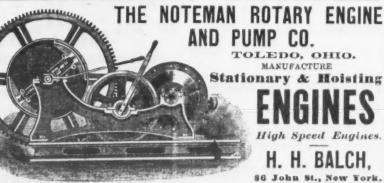


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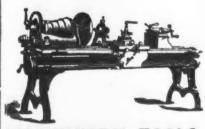
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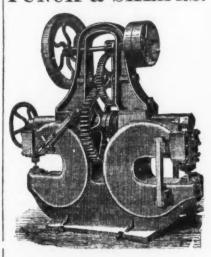
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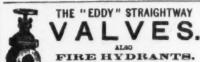
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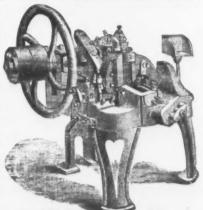


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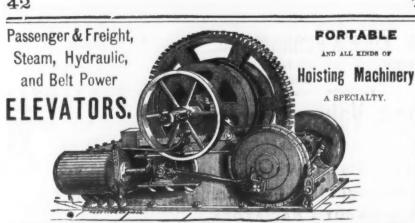
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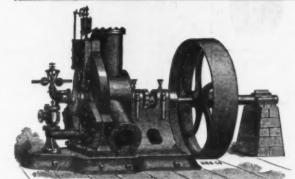
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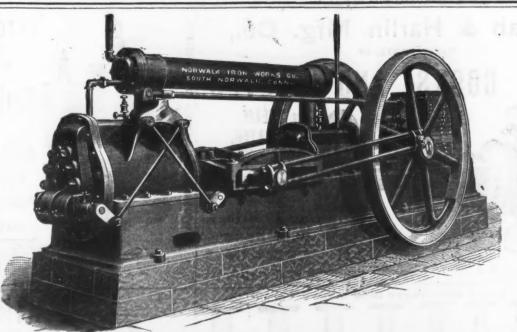
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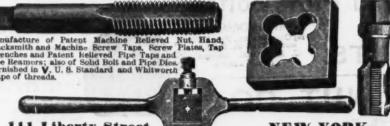
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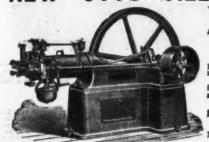
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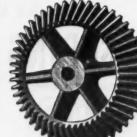
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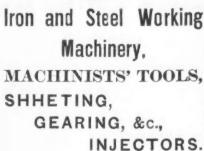
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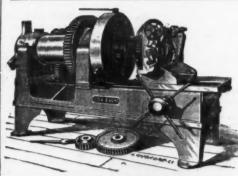
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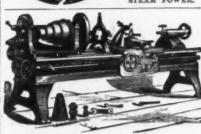
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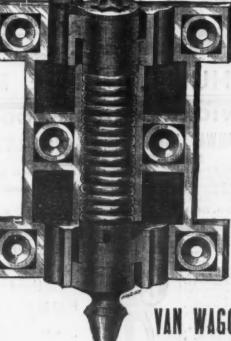
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